

Manufacturers Record

Industry Construction

\$6.50 per Year
Single Copy, 20 Cents

Baltimore, Md.
JULY 9, 1931



Construction Activity

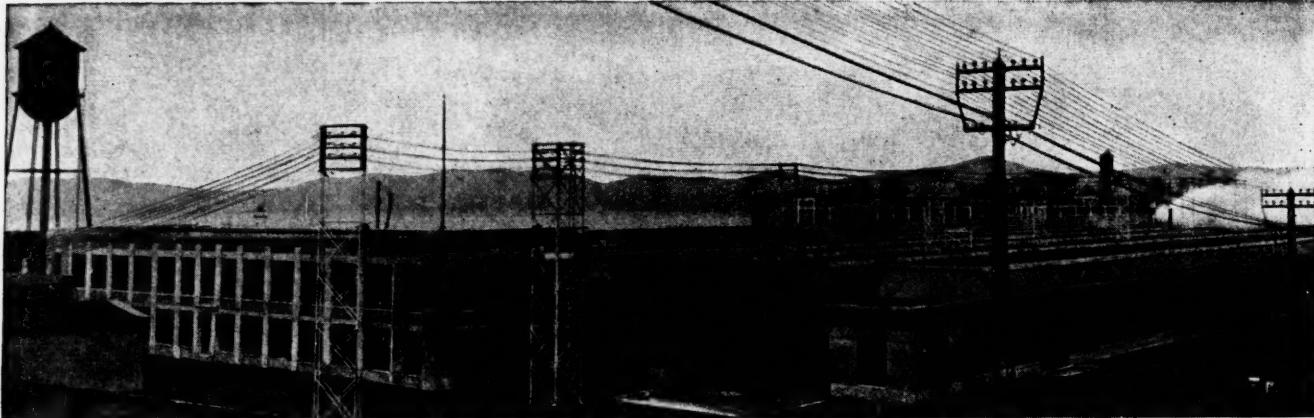
* Construction contracts awarded in the South for the first six months of 1931 have a combined value of more than \$384,000,000. New construction proposed during June aggregated \$79,000,000.

As building and engineering work throughout the country has been on a greatly reduced scale, to adequately appreciate the South's activity a comparison is made with the last economic depression, following the deflation of 1920-21. In the first six months of 1921 Southern awards were only \$129,000,000, and after the upward trend had started in 1922 Southern construction contracts amounted to only \$258,000,000 for the first six months of that year. Therefore, the \$384,000,000 of new work up to July 1 this year is more than two and a half times the six months' total of 1921 and \$126,000,000 more than was reported for the corresponding period of 1922.

In fact, the South's record for the first six months of 1931 is \$54,000,000 ahead of the contracts awarded for the entire 12 months of 1921.

While the 1931 valuation is below the record established in 1930, when the enormous gas and oil pipe line development from Southern oil fields was at its height, it represents a greater diversity of building and engineering projects. Expenditures for public work continue to feature the South's program, with building operations in several cities ranking in major importance.

The value of contracts awarded in the South for the six months ending June 30, while falling short of the amounts reported for the corresponding period of the previous three years, is above the six months' construction expenditures for 1927, which was considered at the time a normal building year. In the light of the facts presented, the record made under prevailing business conditions clearly indicates that the South is more than holding its own, during a period when the rest of the country has experienced a marked decline in construction activity.



Chevrolet Motors, Division of General Motors Corporation, Assembly Building, Tarrytown, N. Y., covered with over 400,000 sq. ft. of Featherweight Concrete Insulating Roof Slabs. Many other plants of this Company from New York to California are protected with Federal. Architects: Albert Kahn, Inc.

Today's Greatest Roof Value!

A roof acknowledged for over a quarter century to be the best that money can buy, today offers greater value than ever before.

Scientific research and development through Haydite light weight aggregate, plus economical design, have produced the light weight roof slab (as low as 10 lbs. per sq. ft.) with new insulating value—retaining the known strength, permanence, fire-safety of concrete—and no maintenance! It goes on the same light steel frame that carries other roofs. There is no other roof construction known today that can compare in value with this.

Featherweight Concrete INSULATING ROOF SLABS

are in broad service all over the country, on industrial, utility, and railroad buildings, as well as on prominent public buildings—accepted and used by outstanding architects and engineers. Complete details in our "Catalog and Roof Standards" sent on request.

Made, Laid and Guaranteed by

FEDERAL-AMERICAN CEMENT TILE CO.

Executive Offices: 608 South Dearborn Street - - - - - Chicago
Plants Near CHICAGO - NEW YORK - PITTSBURGH - BIRMINGHAM
FOR OVER A QUARTER CENTURY

Don't tie your money up in a one-purpose machine!

THE Northwest Pullshovel is more than a trenching machine. It is an all-purpose unit that answers the problem of the sewer contractor today and is ready for other work as a shovel, crane or dragline tomorrow.

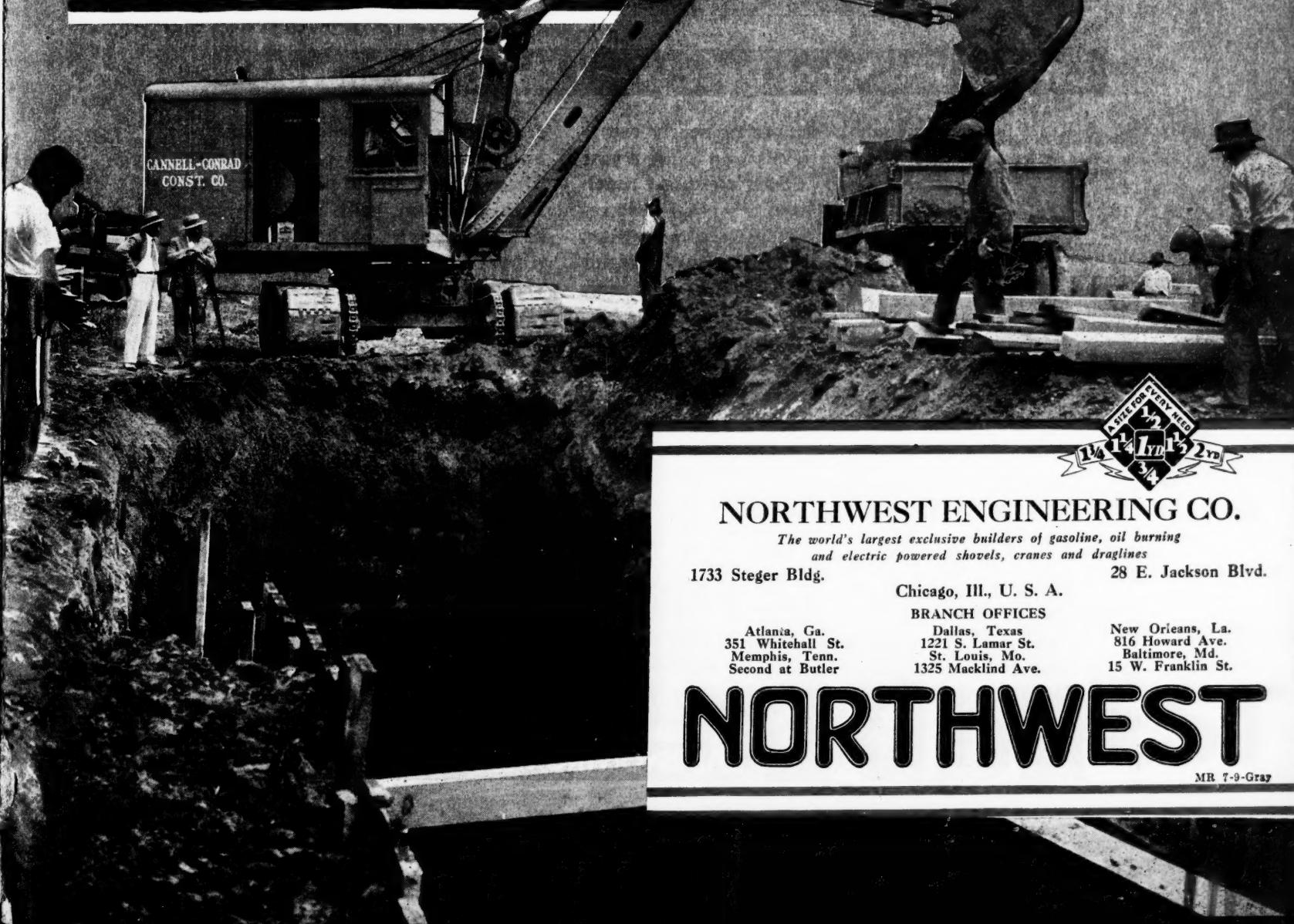
It handles depths up to 27 ft., cuts a straight walled trench and loads to trucks with ease, meeting the low clearances necessary in streets and alleys.

For water lines and drains, there is the Model 2, $\frac{1}{2}$ Cu. Yd. capacity.

Northwest built the first full revolving Pullshovel and there are more Northwests of this type in service than any other make.

Yours should be a proven machine.

THIS
IS
PAGE
3



NORTHWEST ENGINEERING CO.

*The world's largest exclusive builders of gasoline, oil burning
and electric powered shovels, cranes and draglines*

1733 Steger Bldg.

Chicago, Ill., U. S. A.

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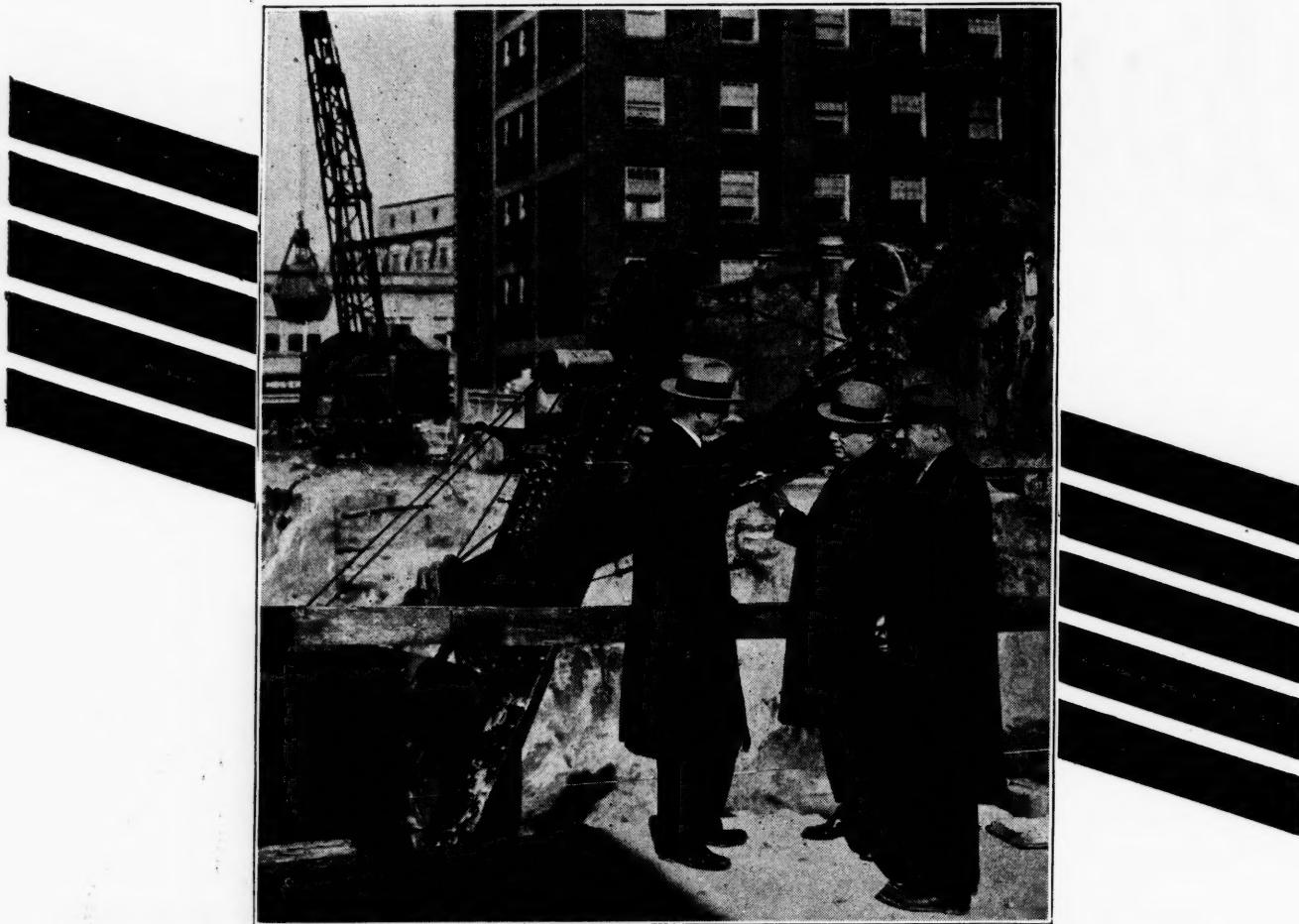
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Memphis, Tenn.
Second at Butler

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St. Louis, Mo.
1325 Macklind Ave.

New Orleans, La.
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NORTHWEST

MR 7-9-Gray



"Well, Nick, What Does Wear Out On A Shovel?"

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Bldg.

Sooner or later, pretty nearly everything. Some shovels won't last a year on some work. Some won't last much longer on any kind of work before repairs start running your costs sky high.

This year, with bids low and margins narrow, the rate of wear counts more than ever before. If that rate is low, maintenance and fixed costs will be low. If it's high, watch out for your profits. P & H Excavators are your best

guarantee of low repair costs, of fewer and smaller losses or breakdowns. There isn't a single part on a P & H Excavator that isn't built as strong as man knows how to build. There isn't a part that won't outlast anything you've ever known before. And every part has been designed and built for easy and quick replacement. Ultimately even a P & H will wear out, but before it does you'll dig far more dirt for less money.

HARNISCHFEGER CORPORATION

Established in 1884

4427 West National Avenue, Milwaukee, Wisconsin

Warehouses and Service Stations: Hoboken Memphis Jacksonville Seattle Los Angeles San Francisco Dallas



27 STANDARD MODELS \$6.500 TO \$65.000

SHOVELS • • DRAGLINES • • CRANES • •

SKIMMER SCOOPS • • TRENCH HOES

FULL REVOLVING MODELS 3/8 TO 3 1/2 CU. YDS. CAP'TY

"WABCO"

Packing Cups

for Pneumatic Devices

Here is a line of composition packing cups suitable for a wide variety of pneumatic devices, including operating valves, power and cushioning cylinders, hoists, chucks, clamps, air springs, etc. . . . They are made of the same composition developed in our own rubber products plant for use in railway air brake cylinders — it having proved under long practical tests to have better mechanical and physical properties than any other commonly-used packing material.

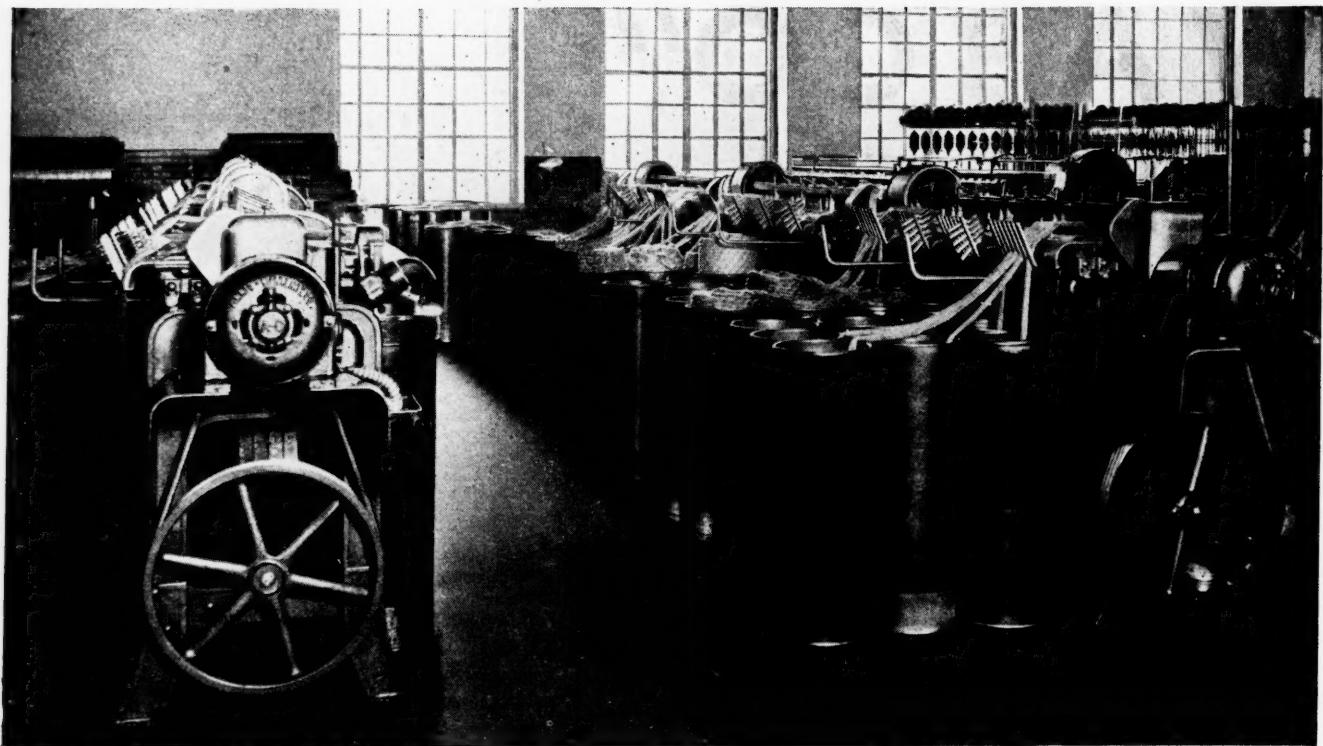
These cups will withstand the action of oil, moisture, and a wide range of temperatures. They are moulded to accurate size and shape, and re-enforced with open mesh cord fabric that is thoroughly imbedded in the composition.

WABCO packing cups are distinctly effective in making and holding an air tight seal.

**WESTINGHOUSE
TRACTION BRAKE CO.**
Industrial Division PITTSBURGH, PA.

*WABCO cups are available
in a multitude of sizes, ranging
from 1" to 26" diameter . . .
Perhaps there is one among these
that you can use . . . Send your
drawings and permit us to quote on
your requirements.*





A New Application of Individual Motors to Drawing Frames..

Former installations of individual motors driving drawing frames have been made with motors located on the floor, where they extended beyond the frame limits, interfering with the free movement of roving cans and where they were subjected to the maximum amount of dirt.

The installation illustrated above shows Allis-Chalmers Type AR all steel frame motors with anti-friction bearings, and Texrope Drives, at the Newnan Cotton Mills. The motor for each frame is located in a clean accessible position and with the drive does not appreciably increase the overall length of the frame. With this arrangement an extremely low maintenance cost is assured.

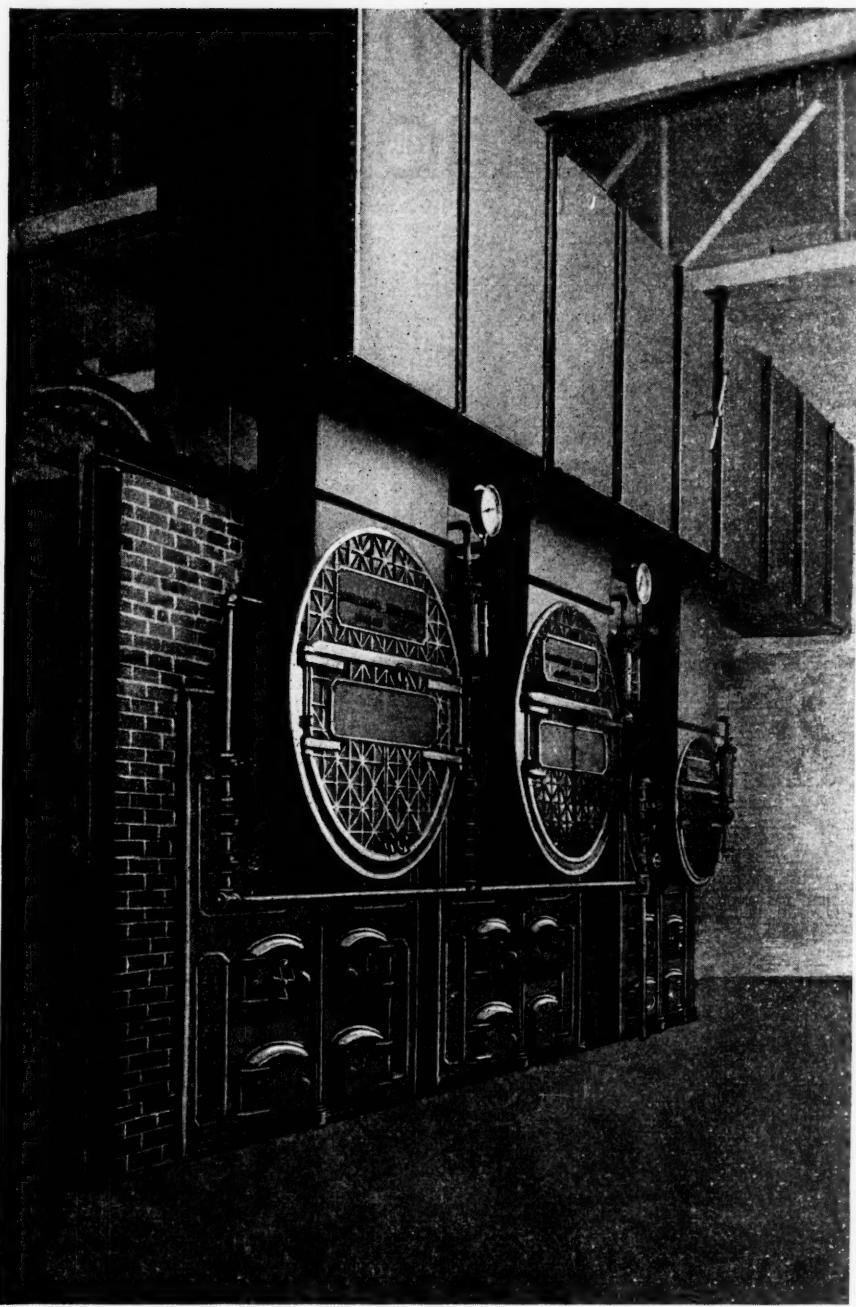


Allis-Chalmers motors are built in many sizes and types to fit practically every kind of drive in the textile and allied industries. These include squirrel cage, slip-ring, synchronous, and direct current motors. For locations where explosive gases are present the Underwriters have approved the new Allis-Chalmers explosion-proof motor, and for less hazardous locations, the enclosed fan-cooled motor. Special textile motors are built for individual drive.

ALLIS-CHALMERS

Allis-Chalmers Manufacturing Company, Milwaukee

BOILERS for Immediate Shipment



Standard Brick Setting of Three Return Tubular Boilers with Rectangular Steel Cross Flue.

We carry boilers in stock for immediate delivery, ranging in size from 12 h.p. to 150 h.p. They are built to carry a working pressure of either 100-124 or 150 pounds.

Schofield Boilers are built of Open Hearth Homogeneous Flange and Fire Box Steel Plate and have a tensile strength of 55,000 lbs. per square inch of section.

All boilers are tested before shipment to a pressure of 50% in excess of that at which they are to work.

Whatever your requirements we can satisfactorily fill them.



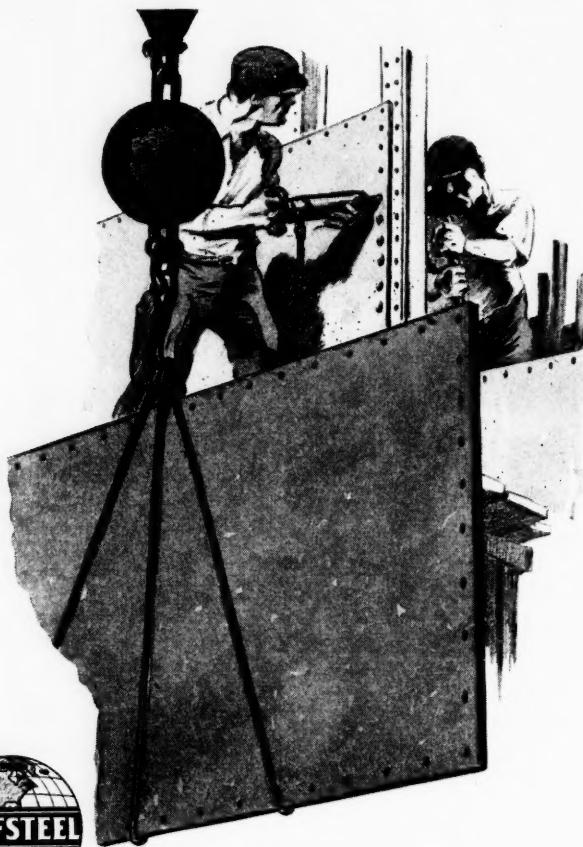
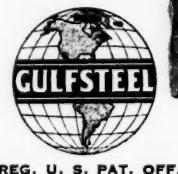
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STEEL BUILDINGS — ROTARY DRYERS — STEEL PLATE WORK
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J. S. SCHOFIELD'S SONS CO., INC.
MACON **GEORGIA, U. S. A.**

GULFSTEEL PRECISION PLATES HAVE A UNIFORM THICKNESS THAT MAKES FABRICATION EASIER

**"SAVE
WITH
STEEL"**

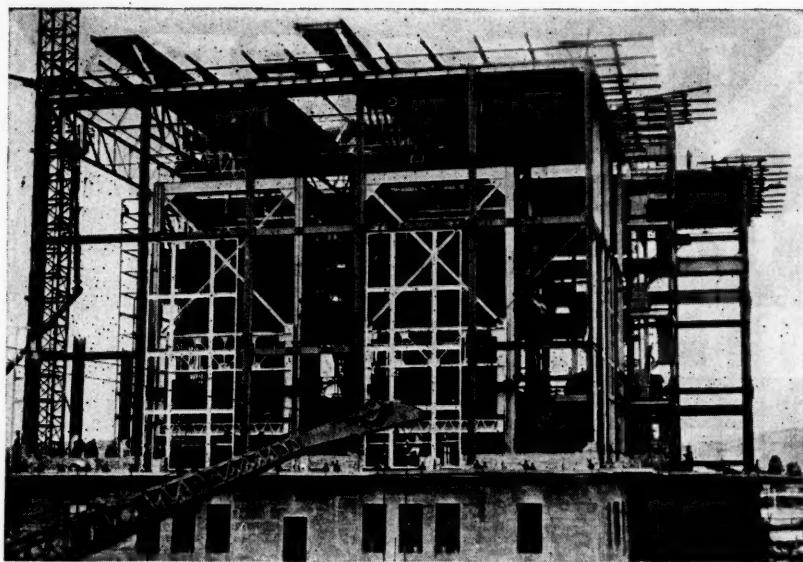


WHEN edges fit snugly and surfaces are uniform, plate fabrication (either by welding or riveting), is speeded up. In addition, the job looks better and lasts better. That's why users of steel plate are turning more and more to GULFSTEEL for their plate requirements. GULFSTEEL Pre-

cision Plates are made in the most up-to-date plate mill in the South, and the only plate mill in the United States with automatic screw-down control—which assures greater precision of thickness. Send us your inquiries. You'll get plate of better quality and greater precision, without added cost.

**GULF STATES STEEL COMPANY
BIRMINGHAM, ALABAMA**

GULFSTEEL



At top is the Rio Grande Power Station, El Paso Electric Company, El Paso, Texas. At bottom is the Baton Rouge, Louisiana, Station of Louisiana Steam Products, Inc. (Subsidiary of Engineers Public Service Co.) Both of these stations were designed and built by Stone & Webster Engineering Corporation, Boston, and are two of many power houses for which we have furnished the steelwork to these famous builders.

Current Building

ELECTRIC power plants have become highly developed structures from the standpoint of the building itself. Larger units, automatic processes and controls have made necessary tremendously strong and rigid housing. In fact, there is probably, on an average, more structural steel in the modern steam electric station than in any other class of building of the same cubical dimensions.

All of which means highly trained and experienced engineering, purchasing and constructing organizations who know what and where to buy. We place among our most valuable assets the confidence and goodwill of such organizations whom we have served on many installations throughout the South and Southwest.

VIRGINIA BRIDGE & IRON CO.
Roanoke • Birmingham • Memphis • Atlanta • New Orleans
New York • Los Angeles • Charlotte • Dallas • El Paso

Our long experience in power house work is one phase of our general activity in steel construction embracing all kinds and sizes of steel buildings and bridges.

We shall be glad to furnish designs and estimates on your requirements however large or small.

VIRGINIA BRIDGE
STEEL STRUCTURES

TENNESSEE TRACK FASTENINGS

FG

Careful selection of track accessories is an important step toward the elimination of maintenance worries and expense. To stand the severe strains to which they are subjected in service, a sturdy tenacity must be built into these products through the use of the very best materials and manufacturing methods. Tennessee accessories are produced with an emphasis on quality and every care is exercised in their making to the end that they may render to the fullest extent the important service required of them.

TENNESSEE COAL, IRON & RAILROAD COMPANY

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OIL WELL SUPPLY COMPANY
THE LORAIN STEEL COMPANY
TENNESSEE COAL, IRON & R. R. COMPANY
UNIVERSAL ATLAS CEMENT COMPANY

A Steel Wharf
for any depth of channel
and any surcharge load

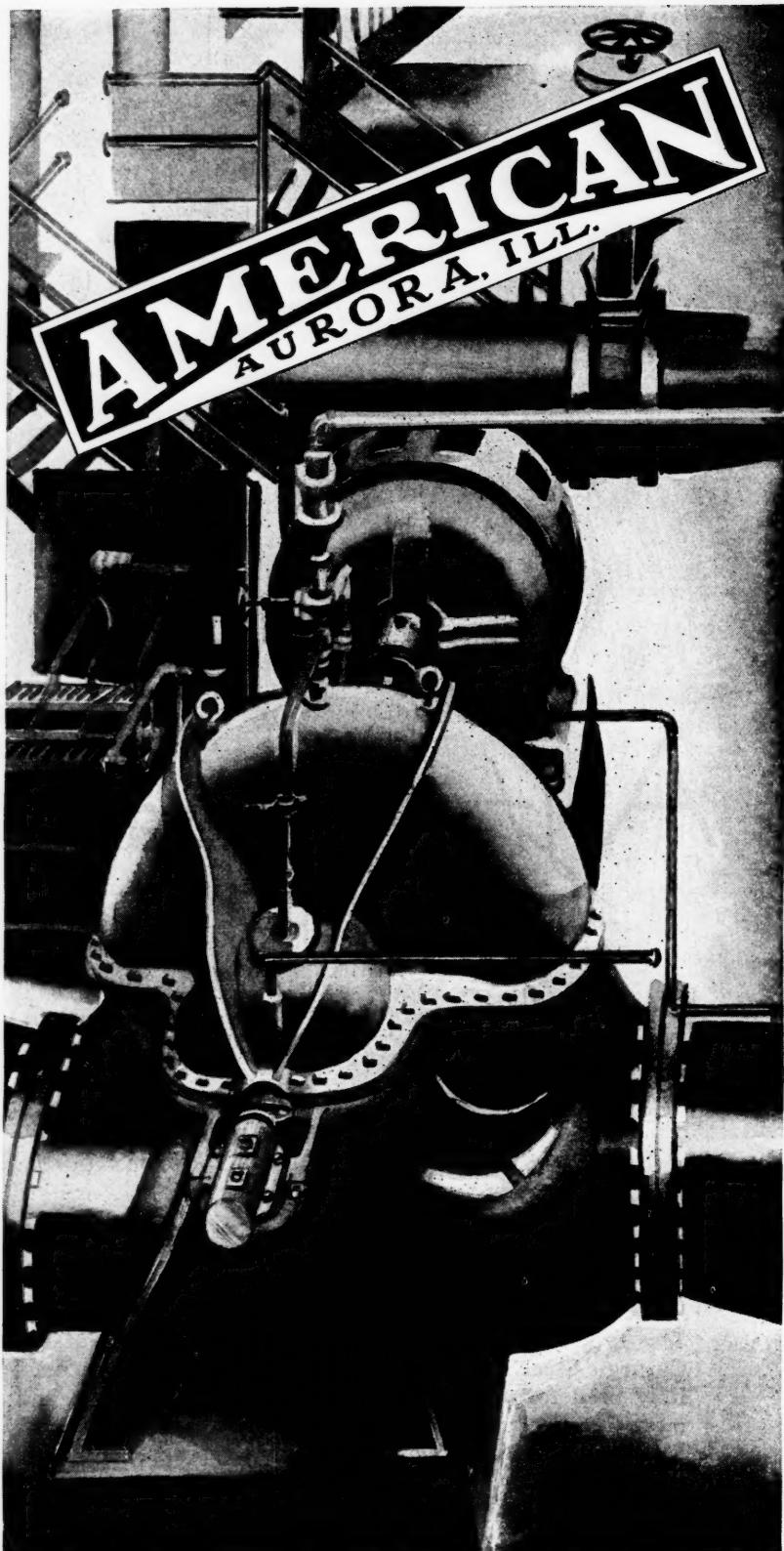
APARTICULARLY efficient and economical type of wharf and bulkhead construction is illustrated herewith. By varying the weight of the CB Sections and the spacing of the master piles, a wharf of any desired bending strength or any depth of channel can be constructed. An anchor rod is used for each master pile. No waling is necessary, as the piling, driven in the form of an arc, is entirely in tension.

This type of construction, incorporating CB Sections and Carnegie Steel Sheet Piling . . Section M 107 . . was successfully used for wharf at Gravesend Bay, New York, and more recently at Panama City. A new job at Alpena, Michigan, now under construction, incorporates a double master pile as shown at top of illustration. Carnegie Engineers are at your service at all times.

CARNEGIE STEEL COMPANY • PITTSBURGH
Subsidiary of United States Steel Corporation

CARNEGIE
STEEL SHEET PILING

139



TOLEDO, OHIO USES "AMERICAN" PUMPS

FIVE "American" Centrifugal Pumps with a capacity of 117,500 gallons per minute are on duty in the Sewage Pumping Station at Toledo, Ohio. Day in and day out they insure the health of the community by their efficient disposal of the city sewage.

Ample water supply, efficient fire protection, sufficient sewage disposal are matters of grave importance in any community. The "American" trade mark on deep well turbines, deep well plunger pumps and centrifugal pumps—is the mark of equipment that has proved its worth in hundreds of cities and towns.

Over a period of sixty years "American" Pumps have become recognized as standard equipment.

"American" Pumps in the Sewage Pumping Station at Toledo, Ohio

THE AMERICAN WELL WORKS

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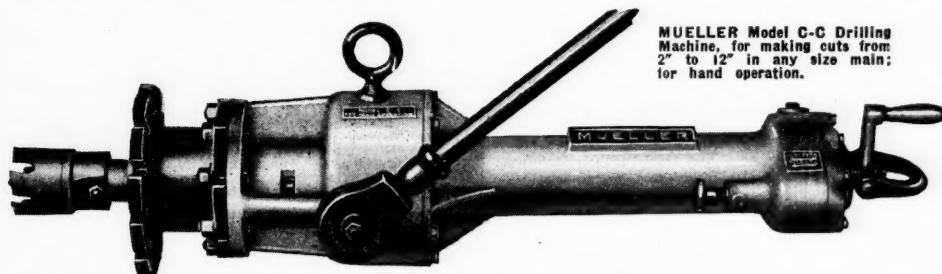
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This new MUELLER DRILLING MACHINE



MUELLER Model C-C Drilling
Machine for making cuts from
2" to 12" in any size main;
for hand operation.

10 . . . presents
Signal Improvements!

1. *Increased capacity.* This machine is capable of making a 12" cut in a 12" main.
2. *Decreased size and weight.* The Mueller C-C is shorter and lighter than other machines of less capacity.
3. *Working parts enclosed in aluminum case.* No dirt or grit can work in to damage the moving parts.
4. *Greatest RANGE of cutting capacity.* No other one machine equals the MUELLER C-C in cutting range.
5. *Extreme rigidity in operation.* Proper design and built-in MUELLER QUALITY are responsible for this feature.
6. *Positive and automatic feed;* insures longer cutting life and better operation.
7. *Rapid and positive advance and return of boring bar to and from main.*
8. *Case filled with lubricant* which automatically lubricates every working part every time machine is used.
9. *New design which permits packing to be tightened* while machinery is in operation.
10. *Boring bar free from indentations;* this eliminates the cutting away of the packing.

MUELLER engineers have been planning this new, improved drilling machine for many years. Close association with water and gas companies everywhere enabled them to study the performance of large type drilling machines. Records of their findings were carefully kept. Tests were made to determine with greatest possible accuracy, exactly what features and fundamental requirements the most satisfactory type of machine for this work should combine.

The new MUELLER Model C-C Drilling machine is the result.

It combines features found in no other machine. It presents ten signal improvements, plus MUEL-

LER quality which has been recognized as standard for three-quarters of a century!

MUELLER C-C Drilling Machines are furnished with 2, 3, 4, 6, 8, 10 and 12-inch equipment. Customer may specify the equipment he desires. Machines can also be furnished with 36" travel and with cutters $\frac{1}{2}$ inch less than regular for gas companies desiring to drill through welded nipples and valves.

Write for complete details and prices.

MUELLER CO., (Established 1857). *Factory:* Decatur, Illinois. *Branches:* New York, Dallas, Atlanta, San Francisco, Los Angeles, Chicago. *Canadian Factory:* MUELLER, Limited, Sarnia.

MUELLER

Trade-Mark Reg. U. S. Pat. Office

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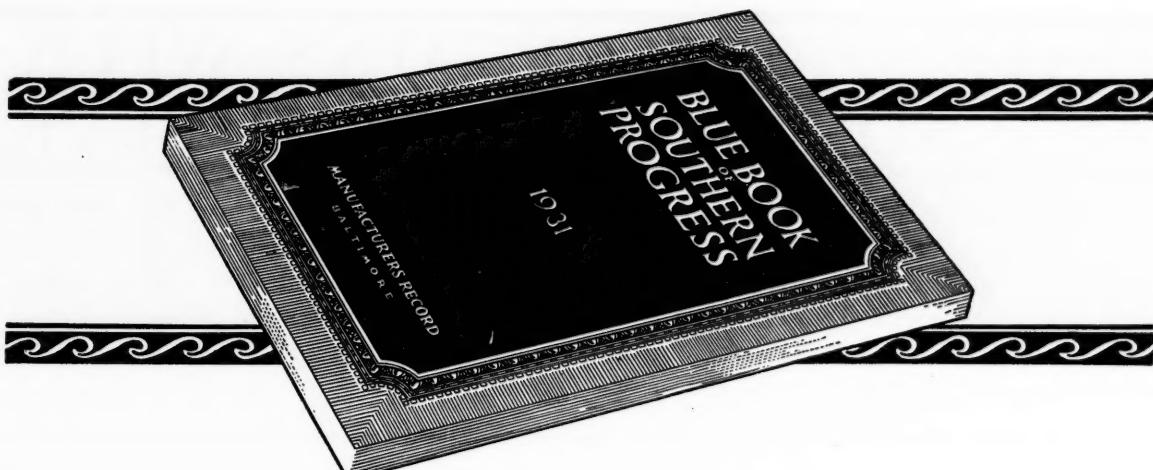
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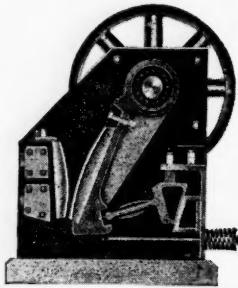
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South's Textile Expansion Continues

SOME months ago the MANUFACTURERS RECORD had occasion to refer to a report that the South was losing its dominance in cotton manufacturing. At the time it was shown by figures of textile production and spindle activity that this report was erroneous, that this section is not only holding its own, but is steadily increasing its capacity. Lately there have been rumors that there is a tendency of textile mills to move back to New England, based on Southern labor disturbances of two years ago, and that atmospheric conditions are better in New England for textile manufacturing than in the South. We have been asked to present the facts.

There is no movement of textile mills away from the South.

There has been a slowing down from the high record established a few years ago in the migration of the industry to the South, due to the adverse business situation throughout the country and the world. However, even under present dull business conditions and the over-capacity of the textile industry, new mills are being established in the South. Some of the representative mill extensions, acquisitions and new projects in the Southern States since April 1 are as follows:

The Clark Thread Co., Newark, N. J., is building the first unit of a 40,000-spindle mill at Austell, Ga., estimated to involve a total ultimate investment of close to \$2,000,000.

The Tennessee-Eastman Corp., a subsidiary of the Eastman Kodak Co., Rochester, N. Y., is expending approximately \$1,000,000 for a cellulose acetate yarn plant at Kingsport, Tenn.

The Bibb Manufacturing Co., Columbus, Ga., awarded contracts in April for 1000 automatic looms for manufacturing print cloth.

Appleton Mills, Anderson, S. C., went forward with work this spring on extensive plant improvements.

The Morgan Cotton Mills, Inc., Laurinburg, N. C., awarded contracts in May for a one-story addition.

Commander Mills, Inc., Sand Springs, Okla., are completing a bleachery.

J. Spencer Love and associates, operators of the Burlington Mills, Inc., in North Carolina, acquired the Ossipee

plant of the Consolidated Textile Corp., New York, for the installation of looms to produce crepes. The Love interests, also, acquired a plant formerly operated by the Klotz Silk Throwing Co., and incorporated the United Throwing Company. At Statesville, N. C., the Love interests acquired the Gagner Manufacturing Company property to install equipment for producing rayon crepes. At the same time plans were announced for building a modern piece-goods, dyeing and finishing plant.

Virginia Textile Corp., a subsidiary of the Dundee Textile Corp., Passaic, N. J., may erect a one-story addition to its Lynchburg, Va., plant and transfer manufacturing operations there from New Jersey.

Sherwood Tapestry Mills were incorporated at Burlington, N. C., and installed Jacquard and plain looms for making draperies and tapestries.

J. F. Ames of Ames Bag Machine Co., Cleveland, Ohio, and associates, in April acquired the Strowd-Holcombe Cotton Mill, Inc., of Birmingham, Ala.

Caramount Mills, Rocky Mount, N. C., awarded contracts in April for a boiler room and mill addition.

New hosiery mills announced recently included plants and additions as follows:

Hoover Hosiery Co., Concord, N. C., full fashioned hosiery;

Huntley, White, Jackson Company, High Point, N. C., men's hose;

McDonough Hosiery Mills, Inc., McDonough, Ga., addition;

Mountain Hosiery Corp., Narrows, Va., addition;

Real Silk Hosiery Mills, Indianapolis, moved full fashioned machines from Philadelphia to Dalton, Ga.;

Asheboro Hosiery Mill, Asheboro, N. C., addition;

Virginia Maid Hosiery Mills, Inc., Pulaski, Va., addition; and the

Adams-Millis Corp., High Point, N. C., finishing plant for full fashioned hosiery mill.

The Massachusetts Knitting Mill, Boston, recently purchased the Columbia, Tenn., plant of the Cadet Hosiery Company.

Because of sporadic strikes in a few mills, strikes largely fomented by communistic agitators, much publicity was given to the disturbances at the time. Southern mill workers as a whole, however, were not misled; they proved their dependability and loyalty.

As to manufacturing conditions, Southern mills,

through humidifying systems, operate under a more uniform atmospheric condition than is possible in any section without the use of temperature and moisture control equipment. Assertions that atmospheric conditions of the South are detrimental to textile manufacturing is not new. One recalls that for years it was claimed that Southern mill workers were not capable of producing fine goods. Actual practice in mill operation proved that nothing could be further from the facts. The South's answer to such rumors and claims has been to produce an increasingly larger proportion of the domestic cotton goods manufactured in the United States. At each Census period the percentage of the South compared with the country's total output has been steadily climbing and, according to the Census of 1927, more than 67 per cent of the cotton goods output of the country was by Southern mills.

There are now located in the Southern States more than 56 per cent of all the cotton spindles in the country. In the depression year 1930, all the major cotton manufacturing states of the South reported gains in spindle capacity, while New England, notably Massachusetts, continued to show a loss in spindlage. In fact, since 1925 the South has increased its capacity by more than 1,500,000 spindles, while in the same period New England has dismantled more than 5,800,000 spindles, and the decline continues month by month at an average rate of 65,000 spindles monthly since January 1. In 1925 New England had 18,332,000 spindles in place, as compared with 17,619,000 in the South. By 1927 the South had caught up with and passed New England, and the South now has 6,600,000, or 53 per cent, more spindle capacity than all the mills of New England. These figures, compiled from Census Bureau reports, tell the story better than any generalization.

Spindles in Place

	South	New England
June, 1931	19,150,000	12,503,000
January, 1931	19,148,000	12,830,000
January, 1930	19,001,000	14,116,000
July, 1929	18,867,000	14,549,000
July, 1928	18,493,000	15,463,000
July, 1927	18,196,000	16,871,000
July, 1926	17,850,000	17,946,000
July, 1925	17,619,000	18,332,000

The increase in the spindle capacity of the South is abundant evidence that its cotton textile industry is expanding; and with the development of rayon manufacturing in the last decade there have been established in this section some of the largest rayon plants in the world. Instead of the industry moving away from the South, more mills are coming into this section.

There is one point, however, for the South seriously to consider if it is to continue to hold its leadership. B. B. Gossett, president of the Chadwick-Hoskins Company of Charlotte and a former president of the American Cotton Manufacturers Association, in an address before the Southern Textile Association at its recent Charleston convention, issued this timely warning:

"New England has set her shoulder squarely to the

wheel with a determination to win back the position she formerly held in the textile world. Her people are not only sympathetic but are lending their active aid to this end. For the first time in the history of the Southern branch of the industry, many of our mills are now paying substantially higher taxes than their competitors in New England. In the Southern States where the largest textile development has taken place, there has been a heavy increase in the tax burden in the past ten years. * * *

"New England is junking old, worn-out and obsolete machinery and replacing it with modern up-to-date equipment.

"Wage reductions in New England in the past year have been on the average more drastic than in the South, so I think it may be safely assumed that those mills in New England which have been revamped and rehabilitated and which are under good management can produce goods as cheaply and in some cases cheaper than the average Southern mill."

This statement by Mr. Gossett was hailed in some quarters as proof that the South was losing its hold in cotton manufacturing. On the contrary, Mr. Gossett was simply emphasizing a trend which would lead to the South's loss of textile supremacy, if Southern people failed to consider carefully the adverse effect of increasing taxes. It doesn't reflect upon the South's ability to manufacture textile products efficiently but it does reflect on Southern mill management which allows equipment to become obsolete and thus impair efficiency. The many new mills established in the South, of course, are not operating under the handicap of inadequate equipment. Furthermore, it is up to the legislators of those Southern states which have been unduly raising taxes to see that they do not imperil industrial expansion. Mr. Gossett is to be commended for his effort to arouse interest in a condition which might develop to the detriment of the whole South. It is a timely warning and should be heeded immediately before irreparable damage is done not only to the South's textile industry, but to other manufacturing and to all business enterprises in this section.

The Moratorium

THE international agreement on a war debt moratorium is of primary importance as virtually the first positively constructive movement in the period of worldwide depression. The value of the movement is enhanced by the determination with which it has been undertaken and the spirit of businesslike, as well as friendly, cooperation displayed by all interested nations.

Successful conclusion of the international negotiations, however, is not properly to be accepted as the attainment of the ultimate objective, but merely as the first step. The moratorium is simply the means to an end, and evidently not the ultimate aim.

The true significance and value of this step, so far, are discernible in the spirit of confidence which it has promoted. With faith in the future somewhat restored and general morale reestablished, commodity prices of all kinds may be expected to rise. Indeed,

in some measure, this advance has been started—the price of cotton has been stepped up, to the great advantage of the South, and accretion of values of all Southern products, agricultural and manufactured, may be reasonably expected as time goes on.

Confidence and better prices have been the outstanding need in the United States for the resumption of business activity. The constructiveness of this international movement, far more than the magnitude of the money items involved, should go far toward promoting both these factors.

Texas Turns to Manufactures

THE determination of business Texas to encourage manufacturing in that state through Progressive Texans, Inc., is of more than state or sectional interest; it is of importance far outside the South. Locally, this encouragement indicates that Texas has developed its raw materials and agricultural production to a point at which it may devote more attention to manufacturing enterprise. Sectionally, this presages a volume and value of Southern manufacturing production which will still further advance the industrial South. Nationally, it means a stimulation of business, not of detriment to any other section, but of benefit to all the country.

The significance of this prospective impetus in all three phases becomes evident in a glance at figures for 1929, the latest available. Of 210,710 manufacturing establishments in the country, the South has 46,523, or about 22 per cent. The 5187 manufacturing establishments in Texas are about 11 per cent of the South's total. Manufacturing products in the South, running to \$11,724,000,000 in value, are 16 per cent of the country's total, and the share of Texas, \$1,449,000,000, is about 12 per cent of the present quota for the South.

In particular, the variety of Texas' natural products lends itself to versatility in manufacture. Textiles come first, in the state's opportunity to convert its cotton and wool into fabrics. Beyond this, many diversified lines already are in operation, disclosing a fine foundation on which the state can erect a great manufacturing structure. Alphabetically, the list starts at agricultural implements, runs through dairying, explosives, food processing, furs, glass, hardware, hats, lumber, meat packing, iron and steel and petroleum products, textiles and so on, to wirework and wooden goods.

Besides its wealth of raw materials, Texas has fuels and available power in abundance. Transportation facilities are multiplying, by rail and highway, by waterways and by air. Great and small cities form consuming and distributing centers, and sound financiers and progressive business men direct the local developments.

In short, Texas has in full measure its due proportion of the materials and factors and opportunities enjoyed by the Southern States as a whole. Undoubtedly it will make full use of its many advantages.

Conditions Were Worse in 1921

REFERRING to the fact that the words "good" and "bad" are relative when applied to business as to anything else, the June Graphic Market Review, issued by the stock and bond house of Frank B. Cahn & Co., Baltimore, makes a statistical comparison on business conditions that is of interest. One of the important points developed in its analysis of the present business situation and the corresponding months of 1920-21 involves a comparison of the steel industry's operations as outlined in the following:

"The total theoretical capacity of the steel plants of the United States has increased 22.3 per cent since 1921, hence the current operation of 40 per cent would be actually 48.9 per cent as applied to 1921 capacity. Average monthly operations in 1930 were 47.1 per cent, as against 66.9 per cent in 1920. However, in April, 1931, operations were 36.7 per cent of capacity in comparison with 22.9 per cent in April, 1921. In July, 1921, operations fell as low as 16.5 per cent. As capacity, as indicated above, is 22 per cent larger, the actual tonnage produced in April, 1931, is practically double that produced in April, 1921. Daily average pig iron production was 69.1 per cent higher in April, 1931, than in April, 1921, and steel ingot 96.4 per cent higher.

"Actual tonnage produced and not dollars realized is the only safe basis for discussing industrial activity. Tonnage reflects consumption. Domestic consumption must be accountable for the higher tonnage production, as steel exports were 60 per cent less in 1930 than in 1920. Basic steel price comparisons of April, 1931, with April, 1921, are unfavorable. They show a shrinkage of 27.9 per cent in the composite iron and steel price; 33.9 per cent in the composite pig iron price, and 22.2 per cent in the composite price of finished steel."

Therein lies the weakness of the present situation. Prices of primary products in most cases are below the cost of production and, measured by past experience, a strengthening of the price level has always preceded any real advance in activity. A rising commodity market stimulates buying.

Another index worthy of consideration is offered by the construction industry. The MANUFACTURERS RECORD has emphasized the increase in new construction in the Southern states in 1930 and the early months of this year, as compared with that undertaken during the deflation of 1921. In the aggregate, contracts awarded in the South amounted to record proportions in 1930; and up to the end of May, 1931, not only were they ahead of the corresponding period of 1930 but \$7,000,000 more than for the entire 12 months of 1921. Engineering and building contracts in the South showed a gain of nearly 180 per cent in 1930 compared with 1921. For the first five months of 1931 construction awards are almost 200 per cent higher than for the corresponding five months of 1921, and they amount to 49 per cent more than the January-May total for 1922 when business had begun its upward movement.

The latest prosperity era continued so long and attained such heights in business activity that it is almost impossible now to think in terms other than the abnormally high record established in 1929. We are on a higher level now than in 1921. That depression passed and we entered upon the greatest advance the country has ever known.

Following each depression of the past we have progressed to higher ground. There is no reason to believe we shall not do so again.

\$384,000,000 of New Construction

in Six Months

CONTRACTS awarded for construction, building and engineering projects in the sixteen Southern States during the first six months of this year aggregated \$384,508,000, according to a compilation of reports published in the DAILY CONSTRUCTION BULLETIN and in the construction columns of the MANUFACTURERS RECORD. Municipal, county, state and federal building work has featured the year's activity to date. Here and there private construction projects of a major nature have been advanced, including certain carry-over work started in the last half of 1930, as well as new construction begun this year.

The building of privately financed structures has been pronounced in some sections in spite of the depression. The discovery of what has been called the nation's greatest oil field in East Texas resulted in a veritable building boom for numerous towns and cities, necessitating the erection of stores, theatres, hotels, restaurants, residences and office buildings, and the development of transportation facilities. In the Kansas City area millions of dollars are being put into new grain elevators and additions to established elevators. In Kansas City and St. Louis really formidable building programs are under way, featured by the erection of apartment houses, hotels, office buildings, railway terminal facilities, storage warehouses and similar structures. Further impetus will be given to Kansas City building activity when work is inaugurated on the first of a group of civic projects for which \$35,000,000 bonds were voted last month. Oklahoma City, with a \$20,000,000 building program providing among other things for a 35-story hotel, another of 26 stories, two 33-story office structures, a 9-story Federal building, a \$500,000 Y. W. C. A. building, a \$500,000 Union Station and a diversity of less important enterprises, sets the pace in building for the nation, with a per capita building expenditure of \$33.25. The city of Washington is in the midst of a \$250,000,000 Federal building program, with pressure being applied for completion of many of the projects or having them well under way by the time the 200th anniversary of the birth of the first president is celebrated next year, when the costly memorial span over the Potomac together with the highway to Mt. Vernon will be dedicated. Baltimore has a fairly well rounded building program under way largely due to the diversity of the city's industries.

Scanning building and industrial activity in the territory from Maryland to Texas, it is evident that by and large the South has felt the economic depression to a less degree than the rest of the country, and that far from marking time, its business leaders and financial interests have reaffirmed their belief in the soundness of the nation's business structure by going forward with needed private and public building and construction enterprises.

Marked Influence of Gas and Oil Pipeline Construction

Compared with the valuation of awards in the first half of 1930, amounting to \$537,677,000, and with awards for similar projects in the first half of 1929,

totaling \$455,296,000, the figure representing awards to date in 1931 shows a recession in building work. However, two important factors must be considered to fairly appraise the situation. First, building costs this year are variously estimated at 10 to 20 per cent under last year's figures. Second, in the

first half of each of the two preceding years new pipeline projects from the gas and oil fields of the Southwest to distant industrial centers swelled the construction total by many millions of dollars. A conservative estimate would place awards for this special class of work in the first half of 1930 at \$150,000,000, which figure helped to push last year's Southern building total to a new high

SUMMARY OF SOUTHERN ACTIVITY IN BUILDING AND INDUSTRY

First Six Months, 1931

	Contracts Awarded	Projects Proposed
Apartment houses and hotels	\$15,398,000	\$9,086,000
Association and fraternal	2,665,000	1,863,000
Bank and office buildings	6,648,000	4,880,000
Church buildings	2,105,000	5,303,000
City, county, government and state projects	26,758,000	38,347,000
Dwellings	14,002,000	8,442,000
Miscellaneous	92,613,000	197,793,000
Roads, paving and bridges	176,431,000	174,451,000
School buildings	20,856,000	39,953,000
Sewers, drainage and water works	20,475,000	58,463,000
Store buildings	6,557,000	4,199,000
Totals	\$384,508,000	\$542,780,000
1930	537,677,000	.....
1929	455,296,000	.....
1928	416,624,000	.....
1927	379,922,500	.....

JUNE, 1931

	Awarded	Proposed
Apartment houses and hotels	\$2,051,000	\$715,000
Association and fraternal	125,000	160,000
Bank and office buildings	100,000	655,000
Church buildings	170,000	1,240,000
City, county, government and state projects	3,860,000	6,676,000
Dwellings	2,183,000	800,000
Miscellaneous	11,585,000	26,906,000
Roads, paving and bridges	21,080,000	25,481,000
School buildings	2,239,000	12,257,000
Sewers, drainage and water works	3,424,000	4,722,000
Store buildings	568,000	241,000
Total	\$47,385,000	\$79,853,000
June, 1930	\$226,168,500*	.....
June, 1929	60,285,500	.....
June, 1928	84,030,500	.....
June, 1927	68,113,000	.....

*Included large contracts for pipe line construction.

Industrial, Engineering and General Construction Projects

Type of Project	Location	Cost	Promoted By	Status
Bridge, Rail-Highway	Baton Rouge, La.	\$8,537,000	State Highway Commission	Proposed
Bridge	Tulsa, Okla.	500,000	City	Proposed
Causeway and Bridge	Tampa, Fla.	2,500,000	Tampa-Clearwater Bridge Co.	Proposed
County Highways	Jackson County, Mo.	3,500,000	County	Bonds voted
Dredging	Houston, Texas	954,000	U. S. Engineer Office	Bids, July 17
Floodway Widening	Arkansas	750,000	Commissioners, Drainage Dist. 7, Marked Tree	
Gas Pipe Line	Tennessee	3,000,000	Memphis Natural Gas Co.	Proposed
Gas Pipe Line	Jackson to Hattiesburg	1,250,000	Public Service Corp. of Mississippi	Under way
Grain Elevator Addition	Kansas City, Mo.	750,000	Atchison, Topeka & Santa Fe Ry.	Contract let
Hydro Power Plants	Kentucky-Tennessee	25,000,000	Southern Industries & Utilities, Inc.	Under way
Motor Buses	Baltimore, Md.	450,000	United Railways & Electric Co.	Preliminary permit
Municipal Improvements	Kansas City, Mo.	32,000,000	City	Contracts let
Oil Refinery	Fort Worth, Texas	2,000,000	Sinclair Oil Co.	Bonds voted
Race Track, Grandstand, etc.	Miami, Fla.	1,000,000	Miami Racing Asso.	May rebuild
Race Track, etc.	Hialeah, Fla.	1,000,000	Miami Jockey Club	Proposed
Railroad Equipment	Washington and New York	4,700,000	Pennsylvania R. R.	Proposed
Railroad Equipment, etc.	Southern States	3,500,000	Seaboard Air Line Ry. Co.	Contracts let
Railroad Extension	West Virginia	1,000,000	Virginian Ry. Co.	1931 program
Roads	Ellis County, Okla.	1,000,000	County	Contract let
Rod Mill	El Paso, Texas	1,000,000	Nichols Copper Co.	Bonds voted
Sewer Plant Facilities	Houston, Texas	1,000,000	City	Projected
Telephone Cable Line	Joplin to Tulsa	1,500,000	Southwestern Bell Telephone Co.	Proposed
Water Facilities	Cumberland, Md.	900,000	City	Under way

Private and Public Building Projects

Type of Project	Location	Cost	Promoted By	Status
Conservatory	Washington, D. C.	800,000	Treasury Department	Contract let
Courthouse	Clarksburg, W. Va.	700,000	Harrison County Court	Bids July 15
Federal Building	Little Rock, Ark.	1,435,000	Treasury Department	Bids about July 15
Hospital Reconstruction	Hot Springs, Ark.	1,500,000	Army and Navy General Hospital	Proposed
Hospital	Arkansas	500,000	U. S. Veterans Bureau	Proposed
Library	Washington, D. C.	800,000	Howard University	Plans under way
Office, Loft and Warehouse	St. Louis, Mo.	5,000,000	Midwest Industrial Development Co.	Contract let
Post Office Extension	Washington, D. C.	4,000,000	Treasury Department	Architects named
Post Office	Fort Worth, Texas	1,245,000	Treasury Department	Soon let contract
Post Office	Knoxville, Tenn.	1,575,000	Treasury Department	Architect named
Post Office, Courthouse	Lexington, Ky.	761,000	Treasury Department	Architect named
Post Office and Courthouse	Cumberland, Md.	640,000	Treasury Department	Architects named
Residence	Washington, D. C.	500,000	Raymond T. Baker	Under way
School Buildings	Anne Arundel County, Maryland	1,000,000	Public School Commission	Plans under way
School	Nashville, Tenn.	500,000	School Board	Architect named
School Buildings	Tuskegee Inst., Alabama	500,000	Tuskegee Normal and Industrial Inst.	Proposed
Senate Office Improvements	Washington, D. C.	600,000	Treasury Department	Contracts let
Soldiers' Home	St. Petersburg, Fla.	900,000	Federal Board Hospitalization	Site selected
University Buildings	New Orleans, La.	5,000,000	Loyola University	Proposed

record. It must not be assumed, however, that in the past six months this class of construction has ceased entirely. On the contrary, much of the activity in the steel mills of the country has been due to the demand for sheets for the manufacture of line pipe. While a few new major projects were initiated this year, most of the awards were for extensions to trunk lines put under way last year providing for service to towns and cities along the rights-of-way as well as important industries and central station steam-electric generating plants. An extensive mileage of oil pipelines was also built this year from the new East Texas field to Gulf points, to connect with established main lines in the territory and to serve new refineries.

Highway Construction Features

1931 Activities

Indications are that road, street and bridge construction in the Southern States this year will set a new high record. This is particularly noteworthy because of the vigor with which similar construction has been undertaken in the states from Maryland to Texas since 1921. Steadily increasing revenues from

automobile license fees and gasoline taxes, together with funds provided by the sale of city, county, district and state bonds, coupled with increased federal highway appropriations, go to make up a huge total to carry forward the big construction and maintenance programs outlined. Several states contemplate additional road bond issues, and other states that have pushed such work exclusively on the "pay-as-you-go" plan seriously contemplate bonding for the purpose. Both houses of the Alabama Legislature have passed bills providing for the issuance of \$25,000,000 road bonds for state highways subject to approval by the voters.

In the first six months of this year awards for road, street and bridge work in the South, based on reports published in the construction columns of the MANUFACTURERS RECORD, totalled \$176,431,000, exclusive of individual projects involving an expenditure of less than \$10,000 each, and omitting projects for which no cost figures were available. In the first half of 1930 awards for similar projects in the territory aggregated \$127,316,000. Also, account must be taken of the sharp decline in construction costs, permitting the building of many additional miles of highways and costly bridges. Numerous

major bridge projects have been contracted for, or projected, this year. A \$15,000,000 railway bridge is to be built over the Mississippi River at New Orleans by the Public Belt Railroad Commission. Millions of dollars will be expended for structures to convey rail and vehicular traffic over the 1.5-mile floodway area of the Bonnet Carré Spillway above New Orleans. An \$8,500,000 rail-highway bridge is proposed over the Mississippi at Baton Rouge. A \$2,500,000 causeway and tunnel is contemplated at Tampa, Fla. Work is under way on a \$5,000,000 structure linking Owensboro, Ky., and Rockford, Ind. A \$6,500,000 bridge over the Ohio at Henderson, Ky., is being built by the Louisville & Nashville Railroad Co.

Industrial Expansion Under Way

in Southern States

Varied industrial enterprises in widely scattered sections of the South are included in the list of awards and projected new enterprises announced to July 1 in the territory from Maryland to Texas. The proposed \$10,000,000 commercial chemical plant at Corpus Christi for the Southern Alkali Corporation,

New York, an affiliate of the Pittsburgh Plate Glass Company, Pittsburgh, Pa., and the American Cyanamid Co., New York, holds the premier position in the list of new industries, considering amount of money involved. At a cost of several million dollars the Dow Chemical Company, Midland, Mich., will establish a plant for extraction of bromine from sea water on a site acquired in May near Wilmington, N. C.

A subsidiary of the Texas Company, New York, completed at a cost estimated at \$2,000,000, a plant for the manufacture of chemicals used in the petroleum industry. The Southern-Advance Bag & Paper Company, controlled by the Advance Bag & Paper interests, is enlarging its Hodge, La., plant. The Sylvania Industrial Corporation, New York, is erecting a \$1,000,000 addition to its Fredericksburg, Va., plant for manufacture of transparent cellulose paper. The Tennessee-Eastman Corporation is expending about \$1,000,000 at Kingsport, Tenn., for a cellulose acetate yarn plant. At a cost estimated at \$10,000,000 the Southern Kraft Corporation, an International Paper subsidiary, has completed the South's largest kraft mill at Panama City, Fla. Approximately \$5,000,000 was expended for improvements recently completed by the Brown Paper Company, Monroe, La. The Republic Oil Refinery Company, Texas City, Texas, is completing improvements costing \$1,000,000.

**Railroads Push Construction
Work to Aid Employment Situation**

The South has led in new railroad construction for the past two years.

The railroads have gone forward with the building of new lines, extensions to established lines, the erection of shop buildings, track revision, construction of new tunnels and the building of costly bridges. They are also investing millions in rolling stock and in rebuilding equipment already in use. To aid in the employment situation several roads in the territory from Maryland to Texas have speeded up construction activities. Notable work along these lines has been done by the Norfolk & Western. The Pennsylvania Railroad has placed orders aggregating \$20,000,000 for locomotives and parts to be used in connection with electrification of its lines between New York and Washington. The Seaboard Air Line Railway Company is expending \$3,500,000 additional for improvements along its lines.

Railroads in Oklahoma, Missouri and Texas are enlarging elevators and building new ones. In April the Chesapeake & Ohio Railway Company awarded contracts for line revision work near Fort

Spring, W. Va., to cost \$1,200,000. The Chesapeake & Potomac Railroad Co. proposes a double-track freight line from Shipley, Md., to the Fairfield-Curtis Bay-Brooklyn industrial section of Baltimore. The Virginian Railway Company let contracts in May for a \$1,000,000 section of the Guyandot River Line in West Virginia. Fort Worth & Denver Railway was authorized in May to build a 114-mile line, Shamrock to Wellington, Tex., at a cost of \$4,000,000. Approximately \$5,000,000 will be expended by the Atchison, Topeka & Santa Fe Railway and Oklahoma City in connection with a track elevation program in Oklahoma City. The Gulf & Texas Railway Co., a Southern Pacific subsidiary, announced plans in April for a \$7,000,000 construction program. The Chesapeake & Ohio Railway Co. is erecting a coal pier at Newport News, Va., at a cost of \$2,120,000. A tunnel project for the line near Allegheny, Va., involves an expenditure of about \$1,800,000, while a single track tunnel project near Covington is under way at a cost of \$1,100,000. The Norfolk & Western Railway Company is expending \$550,000 at Norfolk for a pier and warehouse extension.

**Textile Industry Modernizes
and Expands**

Despite unsettled conditions which have existed in the textile industry for five or six years, although improvement has been noted in recent months, in the aggregate a big volume of new construction and mill modernization work was undertaken in the South in the first six months of 1931. The largest new project is that of the Clark Thread Co., Newark, N. J., which is building the first units of a thread mill at Austell, Ga., estimated to involve ultimately an expenditure of several million dollars. The Bibb Mfg. Co., Columbus, Ga., attracted widespread attention with the award of contracts for 1000 new looms.

Textiles Incorporated, Gastonia, N. C., capitalized at \$17,000,000, represents a merger of 14 spinning and weaving mills, with approximately 300,000 spindles, and with the incorporation of a selling unit and a finishing division the activities are being watched by the entire textile world. Hampton Textiles, Inc., is the third division to be formed under the new consolidation, and temporarily will handle mercerizing and finishing in Easthampton, Mass., while the Priscilla Mill at Gastonia, N. C., is being remodeled for finishing. Sales will be concentrated in a single agency, Textiles, Inc., Sales Co.

At Anderson, S. C., extensive improvements are under way at the Appleton Mills. Outside interests have recently acquired by private sale and at public

auctions certain Southern properties, principally hosiery units and specialty mills. Big sums are being expended by established mills for the latest type equipment to replace obsolete machinery, now that practically all the mills have agreed to run day shifts only. Changes in layout, humidifying equipment, etc., are being made. Hosiery mills continue to expand their operations by erection of additions and the installation of new equipment.

Volume of General Construction

Projects Encouraging

General construction projects of every type are under way in the Southern States. The Federal Government is expending large sums for dredging rivers and harbors for inland waterways, in addition to carrying forward through the various U. S. Engineer Offices on the Mississippi River and tributaries a flood control program calling for expenditure of \$35,000,000 annually and providing for the building of revetments, levees, dikes, contraction works, etc. The building of several costly locks is included in contracts recently let, \$800,000 representing the cost of a Kanawha River lock in West Virginia and \$650,000 representing the cost of a lock at Harvey, La. Lake Charles, La., is expending \$750,000 for dock improvements. Several million dollars are being expended at New Orleans for installation of sprinklers in municipal wharves, sheds, etc., as well as for improved new facilities. A 920-foot reinforced concrete and steel two-story pier and warehouse was completed at Baltimore for the Baltimore Mail Steamship Co. Preliminary work is under way on a \$9,000,000 flood control program in the Florida Everglades.

**Expansion of Aeronautical
Industry in the South**

The South is so vast in extent and so diverse in its resources and developmental possibilities that very often a falling off in one class of construction or building work is more than compensated for by an equal or even greater effort and expenditure in another line. For instance, noteworthy development of pipeline transportation facilities resulted in record-breaking activity last year. Falling off in this line has been followed by a revival of developments on a big scale in the aeronautical industry. New mail, passenger and express lines have been established and are being organized and developed, necessitating the lighting of airways, the building of emergency or intermediate fields, and improvement of established airports through extension of runways, erection of new hangars, shops

and administration buildings, and a general improvement in airport facilities.

While commercial air transport companies and airplane manufacturers were quick to sense the great possibilities for developments in the South, due to equable climate and the nearness to the West and to the countries of Central and South America, the Government has matched the efforts of private enterprises by concentrating air operations at numerous Southern points. Perhaps as much as \$15,000,000 is involved in the development of the "West Point of the Air" at Schertz, Texas, near San Antonio, for the U. S. Army Air Corps. No less than \$8,000,000 is being expended for an Army Training Center at Barksdale Field, Shreveport, La. Naval air operations in a big way have been centered at Langley Field, Va., where at a cost of more than \$1,000,000 the world's greatest airplane testing tunnel and auxiliary facilities was recently completed. The location of such operations in the South makes necessary the building of great shops, dormitories, barracks, roads, streets, sewers, waterworks, power and light facilities, etc.

Buildings of All Types Under Way and Planned

Towns and cities in various parts of the South report building work under way in encouraging volume, indicating a slow but sure swing back to normal. Bonds are being voted to finance public building work, and they are bringing premiums in many cases. Continuation of public work in volume has helped to stimulate private endeavor. Modernization programs are aiding in taking up the unemployed surplus in the building trades, and at the same time creating a demand for materials and products turned out by manufacturers in all parts of the country. Space limitations make it impractical to list all the major new building enterprises recently let to contract in the South. Suffice it to say that besides the ambitious projects inaugurated by the Federal Government there are private building enterprises providing for erection of professional buildings, bank and office structures, theatres, stores, motor bus terminals, public garages, market centers, buildings to house amusement activities, etc. Indications are that the South is more than matching the rest of the country in general building activity, and has far surpassed the construction expenditures during the last depression period of 1921-1922. In fact, the value of contracts awarded in the South for the first six months of this year is \$54,000,000 more than the construction awards for the entire 12 months of 1921.

Unique Pedestrian Tunnel

A pedestrian crossing has been constructed under the Georgia Railroad at Union Point, Ga., by the process of jacking an especially fabricated, 90-inch corrugated iron pipe underpass beneath three railroad tracks. The crossing serves cotton mill workers going to and from work, heretofore inconvenienced and endangered by passing trains.

Pipe was placed under the main track and passing track by the Armclo jacking method. Actual installation was started by digging a working trench into the slope of the fill almost to the edge of the ties of the passing track. Lining timbers, laid to grade and line desired in the finished installation, were placed in the trench. A backstop for the jack was built at the rear end of the trench. A section of pipe then was placed on the timbers and excavation was begun. As excavation ahead of the pipe progressed, pipe was advanced into the fill by pressure applied to the jacks, two jacks being used to control the direction of the forward progress. Spoil was removed by means of a wheelbarrow operating on a plank runway. When the first section

was jacked into place an additional section was connected to it by means of a bolted joint. These two sections, a total of 22 feet, were sufficient to pass under the two tracks. The remainder, 70 feet, was installed by the open trench method, there being no necessity for maintaining traffic on the passing and coal chute tracks. Use of sufficient pipe to carry the end of the installation to the toe of the slope obviated the need for headwalls. After all the pipe was installed a cold-mix asphalt sidewalk was laid in it, the bottom of the inside having been coated with asphalt at the factory to serve as a binder between pipe and sidewalk. A saving of approximately 34 per cent is said to have been made by use of the method of construction employed, as compared with the cost of making the identical improvement with rigid construction installed by the open-trench-falsework method.

The underpass was placed by the Georgia Railroad under supervision of B. A. Guill, supervisor of buildings and bridges, with co-operation of the engineering department of the Dixie Culvert & Metal Co., Atlanta.



The Completed Job. Note That Ample Headroom Is Provided

An Encouraging Picture

The monthly generation report of the Seaboard Public Service Company covering May and the first five months of this year shows that total output of subsidiaries increased from 29,084,886 kilowatt hours in May, 1930, to 33,038,195 in May, 1931, or a gain of 13.6 per cent. For the first five months the increase was from

143,939,074 in 1930 to 157,913,547 in 1931, or a gain of 9.7 per cent.

A large gain in net generation by oil engine plants is accounted for by inclusion in the system of a number of new properties recently added to the Eastern Shore Public Service Company. The Seaboard Public Service Company, with headquarters at Alexandria, Va., operates in Maryland, West Virginia, Virginia, North and South Carolina, Georgia and Florida.

Advantages of Textile Consolidations

IT has been matter for wide comment that the cotton goods division of the textile industry has breasted the recent adverse currents of business more courageously and successfully than have the majority of manufacturing industries. Since the autumn of 1930 no current observer seeking rays of hope for early business recovery has failed to find them radiating from cotton textiles. In an industry which emitted gloom through six years of national prosperity, this change of behavior, however welcome, is indeed surprising. Certainly no one anticipated that an industry so chronically harassed as cotton textiles could overcome the momentum of adversity without the active aid of prosperous conditions in other branches of business activity.

To the business community as a whole it is important to know whether this paradoxical occurrence is a freak of circumstance or a final permanent mastery of the old ailments. Much of the improved outlook rests upon changes in the industry which are structural and territorial in character and which permit no doubt as to their permanency. The remainder has its foundations in developments which are less concrete and tangible, but which on that account need not be temporary in their effectiveness.

Illustrative of the latter is a new *esprit de corps* which expresses itself strongly in efforts to correlate the operations of individual enterprises to the needs of the industry as a whole. Through voluntary cooperative action, the industry has for the first time in years consistently kept its production schedules within the limitations of the market. It has avoided the burden of excess inventories which is the usual concomitant of depression. As a step toward permanent rationalization of production policies, the Southern division of the industry formally adopted the famous "55-50" plan by which the great majority of mill units pledged their sup-

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This discussion of the textile situation by Mr. Murchison, who is Professor of Economics at the University of North Carolina, outlines what has been accomplished in recent months through mergers and the better spirit of cooperation in meeting the needs of the industry as a whole. Professor Murchison, it will be remembered, published last year an exhaustive analysis of the textile manufacturing and distributing situation in his book "King Cotton Is Sick," which attracted wide attention and commendation. While he does not show that the industry has entirely recovered, he does offer encouragement.

It is worthy of note that the textile industry seems to have been more successful in solving some of its problems than have other industries. The greatest achievement was the voluntary co-operative action of about 80 per cent of the industry in agreeing to follow operating schedules that brought about a better balanced production to demand. In this movement Southern textile interests played a prominent part.

port to a program of not more than 55 hours per week for day shifts and 50 hours for night shifts.

Equally significant was the recent declaration for the virtual elimination from night work of all women and of minors under 18 years of age. Managements representing over 80 per cent of the industry's spindles have adopted this policy which went into general effect on March 1 of this year. The unequivocal determination to consolidate these reforms is further demonstrated by the action of the majority of mill men in the Carolinas in pressing upon the legislatures of both states the economic desirability of legal limitation of working hours and of the night employment of women and minors. Representative mill managements have shown more advanced opinion in respect to these matters than have the general public and the legislatures.

The general willingness of Southern mills to give up much of their traditional advantage relative to hours and night work is convincing evidence of the completion of the tremendous territorial readjustments which have been so disturbing during recent years. The high tension rivalry of a decade between the South and New England is virtually at an end, and more wholesome psychological attitudes in both sections are bound to result. So long as each section regarded the other as its main source of competition, the Southern mills logically remained individualistic in order to reap the full benefit of their cost advantages, while the New England mills grew rebellious toward the more rigid standardizations of their area and rapidly became semi-demoralized in their business operations.

But the day has arrived when most Southern mills no longer regard their chief competition as coming from New England. Their principal market adversaries are now their own neighbors. The South is at last competing against herself; and New England is once more

competing against herself. No more significant and reassuring development has occurred within the industry since the beginning of the century.

In the coarser fabrics the South is firmly established, manufacturing from 75 per cent to 90 per cent of such items as sheeting, print cloth, cotton shirtings, ginghams, denims, drills, towellings, osnaburgs, cotton table damasks, tickings and cottonades. New England, on the other hand, has consolidated her position as the dominant producer of goods which are finely woven, and particularly of those which are made chiefly or partly of rayon yarn. And there is no immediate threat to her overwhelming predominance in the manufacture of muslins, pluses, velvets, velveteens, crepes, voiles, poplins and broadcloths. The greater proportion of goods of these types is made up as novelties or specialties which removes them somewhat from competition on an exclusive price basis. Their profitableness is conditioned more upon technical skill, merchandising ability and propinquity to finishing and converting facilities than upon cheap labor costs. The New England division of the industry, as at present constituted, is well entrenched against further serious encroachments which spring primarily from labor cost differentials.

With inter-sectional fears, advantages and disadvantages largely out of the way, the incubus of individualism and disorganization has been brushed aside to be replaced by constructive cooperation on the part of members of the industry in all areas. In this gain there is permanency.

If there is still another essential to assure the attainment of enduring prosperity, it would seem to lie in a reduction of the great number of mill managements and a regrouping of the industry's units into vertical combinations.

In the spinning and weaving division of the industry alone there are approximately 1300 separate establishments. As regards the great majority of staple fabrics, production is so widely distributed that it is unusual for even the largest of enterprises to account for more than five per cent of output. This multiplicity of enterprises and the relative unimportance of the majority taken singly constitutes a situation in which cooperative action in the interest of all is not likely to be permanently effective unless welded by a considerable extension of corporate control.

More important than mere numbers as a consideration demanding integration is the high degree of specialization within the industry which decrees that each member of the industry perform but a small part of the total processing required in the transformation of raw cotton into the final consumable product.

A large percentage of mills produce only yarns and so must depend upon mercerizers, weavers and knitters to provide a market. The majority of weavers in their turn produce no finished product, but simply turn out goods "in the gray" which must be offered for sale in the open market through the agency of commission men or brokers. Sales are made for the most part to converters, who determine design, color and nature of finish, and who, in turn, must employ the services of finishers to do the final processing. After this is done the goods are usually turned back once more into the open cloth markets for sale through commission houses. Into the finished goods market come as the chief buyers the garment manufacturers, piece goods retailers, interior decorators and upholsterers, and to a certain extent the industrial consumers of "technical cloths" such as shoe and automobile body manufacturers, though the larger buyers of this character usually have direct mill connections.

Though well calculated to provide a high degree of technical excellence this division of function within the industry is ill-adapted to meet the business contingencies which modern conditions impose. The frequent change of ownership which the products undergo in the various stages of manufacture and marketing serves to set up within the industry what is equivalent to a series of speculative mechanisms. The play for advantage from price fluctuations is often more important from the standpoint of profits than the struggle for reduced operating expense. In other words, a large part of the industry seeks net income as much from fortuitous circumstance as from a successful performance of its technical functions.

A rising cotton market has traditionally invited increased production and heavy buying of goods from the succession of groups composing the industry when no justification for such action could be found in consumer behavior. On the other hand, a falling cotton market has subjected the mills to a great shrinkage of orders and the necessity of manufacturing to stock at great risk despite the maintenance of normal consumption demand. In either case, the disjointed series of specialists which compose the industry in competition among themselves create prices which reflect too much the speculative forces of the moment and set at naught the basic determinant of long time consumption. It is a situation which has been unique among the major manufacturing industries of America and, in the light of modern methods, unbelievably antiquated.

Equally productive of unsettlement and irregularity in price and output con-

trol are the frequent shifts of fashion and the tremendous variety of designs and fabrics which must be offered by mills and converters. Specialty goods have become more important in the prosperity of the industry than staples. Since there is always much uncertainty as to which designs, constructions, colors and finishes will prove popular, all commitments which are made in advance of ascertained consumption requirements are necessarily speculative in character. Attempts on the part of converters, wholesalers, garment manufacturers and other large buyers to reduce the risk means withholding orders from mills and finishers and so putting the latter in bad plight. It is a type of risk from which there is no escape so long as independent ownership is associated with each separate process in production and marketing. Although losses may to a certain extent be avoided by given individuals through shrewd out-trading of other individuals, the industry as a whole cannot escape the demoralizing consequences which such conditions encourage.

Against the cross currents of speculative response to the violent fluctuations of the cotton market and the whirlwinds of fashion, the commission house method of distribution has opposed but little resistance. Its passivity assumed new importance with the growth in power of the cloth buyers. The department stores, mail order houses, garment manufacturers, industrial consumers and retail buying syndicates represent units of buying power which in most cases are vastly stronger than the majority of sellers and better acquainted with market conditions. Hence they are in a position to exact readily from sellers, particularly the mills, the utmost in price concessions upon the first appearance of market weakness. It is typical of the open market form of trade that the extreme markdown of the weakest individual becomes quickly the standard quotation for all. In view of the special conditions which we have already described this tendency to conform always to the weakest has become chronic in the cloth markets.

It has seemed wise to present this statement of the industry's inherent difficulties to make it clear that the case for vertical integration does not rest on the usual advantages of large scale production as exemplified by other industries. In the textile industry where the product is of so volatile a character, mass production with all of the implied economies of operation is far less important than a controlled production. Combination of the vertical type which undertakes all the processes of manufacture, converting, finishing and selling is essential to the elimination of the series of speculative centres which are intermediate between the raw cotton and the finally distributed finished product. If

the same agency which measures consumer demand, assumes responsibility for sales, determines pattern and designs, also has control over mill operations, the incentives to rash or impulsive behavior in production and trading operations are greatly weakened. The enterprise in such a case seeks its profits as compensation for the performance of technical functions and not as the gains from shrewd adjustment to fortuitous circumstances.

The recognition of the advantages of this type of consolidation has now become general throughout the industry. Many such combinations have already been formed and the movement is rapidly gaining a momentum which promises to change within the next few years the entire structure of the industry.

The Pepperell Manufacturing Company, having mills both North and South, has developed the idea of integration to the utmost. Not content with its own converting and selling, it has gone still further to carry on a nation-wide advertising campaign designed to build up good will with ultimate consumers.

In 1929, the Pacific Mills, another well known manufacturer of sheets and pillow cases, discarded the commission house form of selling and is now a completely integrated unit.

Another well known example of this form of organization is the Cone group of mills whose products are processed and sold by the same interests.

The Kendall Company is another famous example of an enterprise which has flourished without dependence upon other agencies to do its finishing or marketing.

In 1930, two other large mill organizations, the Wamsutta Mills of New Bedford and the Nashua Manufacturing Company of Nashua, N. H., discontinued commission house connections and set up their own sales offices.

The Berkshire Fine Spinning Associates is another consolidation of promise organized in 1929 by the union of five mills. It acquired a sixth, the Parker Mills, in 1930, and seems definitely headed toward the completely integrated type.

New England Industries, Inc., is another consolidation which sprang from the adversities of 1929, consisting of five Maine mills whose products are merchandised through affiliated interests.

Perhaps the most spectacular of the recent large combinations is the United Merchants and Manufacturers Corporation promoted and headed by Mr. Homer Loring. The organization includes many mills both North and South, some of which had been virtually abandoned by previous owners. The goal of complete integration was aimed at from the be-

ginning and has been attained with complete success.

Within the last few weeks there were combined in the Gaston county area of North Carolina some 14 combed yarn mills under the \$17,000,000 Textiles, Inc., merger. Most of the yarns produced by these mills are for mercerizing purposes, and the size of the new organization is great enough to insure a far more evenly balanced situation as regards the forces of supply and demand in the combed yarn market. On June 29 announcement was made of the organization of the Hampton Textiles, Inc., Gastonia, to do the mercerizing and finishing of yarns manufactured in the 14 mills of the holding company, Textiles, Inc. The Priscilla mill at Gastonia is being remodeled to handle the finishing for the associated group.

What may turn out to be the capstone of the consolidation movement in New England is the General Cotton Corporation, organized in October, 1930. Its aim is the stabilization of the fine goods division of the industry. Its program is very elastic in character and suggestive of indefinite expansion through the purchasing or merging of weaker mill units whenever such action seems advisable. In the case of hard-pressed mills whose price and production policies are regarded as sound, financial aid may be granted without the assumption of control. The beneficial results of this combination have already become quite evident in the fine goods classifications.

These vigorous realignments of corporate control are clearly representative of a constructive attitude which is steadily gaining in power and which is the final assurance of permanency in the business recovery which the cotton goods industry so hopefully anticipates.

Spinning Merger to Stimulate Activity

Gastonia, N. C.—Recent organization here of Hampton Textiles, Inc., is expected to greatly stimulate textile activity, according to J. H. Separk, vice-president of the organization. Hampton Textiles, Inc., organized as a result of the organization of Textiles, Inc., with an authorized capital stock of \$17,000,000 to consolidate a large number of textile mills in Gastonia and vicinity, will do the mercerizing and finishing of yarns manufactured in 14 mills of the latter company. For the next several months mercerizing and finishing will be done at Easthampton, Mass., while the Priscilla Mill at Gastonia is being remodeled for finishing. Officers of Hampton Textiles, Inc., include: Thomas McConnell, East Hampton, president; R. B. King,

East Hampton, first vice president; A. G. Myers, J. H. Separk, and J. Lander Gray, all of Gastonia, vice presidents. R. A. Bartlett is plant manager.

Cotton for Dollar Bills

The United States Treasury Department has been asked by the Galveston Chamber of Commerce to consider the advisability of making one dollar bills of cotton material with a view to assisting in greater consumption of the staple.

F. Leslie Body, general manager, who made the suggestion said the decision was reached at a meeting of the executive committee, when a resolution was adopted and copies were forwarded to Andrew Mellon, Secretary of the Treasury, and other officials of the department. Mr. Body pointed out many advantages to be derived through the use of cotton for this currency:

"In the first place cotton material is more durable and lasting than the linen and silk thread paper which is now used by the government. Cotton material will also stand frequent washing and it will eliminate all possibility of counterfeiters raising the denomination of the bill.

"Millions of one dollar bills are in circulation and by reason of the popularity of the denomination they are necessarily short-lived. Because of the hard usage to which dollar bills are put the government makes no attempt to wash and return them to circulation. When returned to the Treasury Department they are destroyed. This is not true of \$5, \$10, \$20 and the larger denominations. If dollar bills were made of cotton they would last much longer and a considerable amount of the staple would be utilized.

"Galveston is primarily interested in greater uses of cotton for it has shipped more of the staple than any other port in the United States. For months, leaders in Galveston have done everything possible in the national campaign to make the country cotton-conscious. National Cotton Week was observed and during the International Beauty Pageant a cotton pajama contest was held. At this time the name 'cottonjamas' was suggested and an application for a copyright has been made."

Beacon Lights on Air Route

Washington D. C.—Twenty revolving beacon lights, spaced 10 miles apart on the Federal airway between Washington and Pittsburgh, are now operating nightly, according to the Aeronautics Branch of the Department of Commerce. In addition to the 24-inch revolving lights, four intermediate landing fields, five automatic telegraphic typewriter stations and two airways radio weather broadcast stations have been provided.

Southern Tobacco Situation

THAT economic dependence on one crop is highly speculative has been well illustrated in the recent history of tobacco production in the South. Economic conditions tend to fluctuate directly with tobacco prices in the producing areas of Virginia, North and South Carolina and Georgia. During the war and post-war period up to 1927, flue-cured tobacco was a profitable crop and Southern tobacco growers were generally prosperous. For the past three seasons tobacco prices have been declining, resulting in unemployment and adverse economic and social conditions in many producing areas of the South.

Program of Relief

The several states affected have launched an extensive program to relieve the situation. It has two objectives: To reduce tobacco acreage, and to induce the farmers to provide more food and feed crops. The outcome of the campaign is still in doubt. In many tobacco growing areas cotton was formerly an important crop, but with the advent of the boll weevil, cotton production has been reduced markedly or abandoned altogether. The one-crop system, whether cotton or tobacco, has persisted. There are several reasons for this; the climate and soil are well suited to production of cotton and tobacco. The negro does most of the farm work and he is more easily managed when employed in the production of one or at most two crops. To establish a well-balanced system of farming, including production of several crops and classes of livestock, would require more supervision of the negro than the majority of Southern landowners have been willing to give. Finally, the subject of agricultural economics and farm management has only lately been given attention in our Southern colleges. Heretofore, the productionists have held sway, with the

result that farmers know little about the economics of farming.

Increase in Acreage

Whatever the reasons for the one crop system, tobacco has been over-emphasized in four Southern states. Table 1 shows the acreage and production of flue-cured tobacco (the type used in the manufacture of cigarettes) for North Carolina, South Carolina, Virginia, Georgia and Florida. Of these states North Carolina is the most important producer, in the past six years producing 66.4 per cent of all flue-cured tobacco. The increase in acreage in some of these states has been phenomenal. The acreage in North Carolina increased since 1925 at the average annual rate of 43,000 acres. In Virginia the acreage has remained fairly constant tending on the whole to decrease slightly. In Georgia the acreage increased from 9000 in 1922 to 108,600 in 1929 and Florida has advanced its tobacco acreage from 2500 in 1923 to 8100 in 1929.

Production in North Carolina increased from 252,400,000 pounds in 1921 to 503,900,000 pounds in 1929, or an average annual increase of 39,000,000 pounds. Virginia production has remained about constant with an average annual production of 85,000,000 pounds. Production in South Carolina increased from 54,400,000 pounds in 1922 to 83,000,000 pounds in 1929. Georgia

has shown the greatest increase in production. In 1922 the output was 4,100,000 pounds and it was 88,200,000 pounds in 1929. Florida has increased from 1,400,000 pounds in 1924 to 6,100,000 pounds in 1929.

Supply of Flue-Cured Tobacco

Table 2 shows total production of flue-cured tobacco for all states from 1920 to 1930 inclusive. The increase has averaged approximately 50,000,000 pounds per annum. During this period the stocks of tobacco on hand July 1 have also increased from 304,200,000 pounds to 599,300,000 pounds. The total supply, which is made up of the production and stocks, increased from 935,000,000 to 1,456,300,000 pounds. The annual disappearance of tobacco or the amount consumed or lost during the year has also increased, but not as rapidly as production has increased. In 1920 the disappearance was 451,900,000 pounds and it was 741,000,000 pounds in 1930.

Price Decline

As a result of this unprecedented growth in production of the flue-cured tobacco, prices have tended to decline steadily. In 1922, largely the result of a relative shortage in supply accompanied by a revival in business, prices rose to 29 cents per pound. Since then, with the exception of 1926 when the price averaged 25.6 cents per pound, prices have declined. The crop of 1930 sold for an average of 13.8 cents per pound. This low price probably is less than the cost of production for the large majority of tobacco producers.

Farmers' Intentions to Reduce

A survey of farmers' intentions indicates that a cut of 10 per cent in acreage is in prospect. But a 10 per cent cut

TABLE 1. ACREAGE AND PRODUCTION OF FLUE-CURED TOBACCO BY STATES

Year	North Carolina	Virginia	South Carolina	Georgia	Florida					
	Acreage (acres)	Production (lbs.)	Acreage (acres)	Production (lbs.)	Acreage (acres)					
1924	492,500	275,170,000	142,300	85,045,000	94,000	45,590,000	38,450	29,596,000	2,500	1,400,000
1925	541,000	376,265,000	133,200	78,403,000	96,000	71,040,000	66,200	47,400,000	4,500	3,150,000
1926	551,000	383,740,000	121,200	82,295,000	85,000	56,780,000	51,100	39,095,000	3,100	2,478,000
1927	657,000	484,183,000	134,300	98,100,000	104,000	76,648,000	80,500	57,960,000	5,400	4,053,000
1928	725,000	497,408,000	138,300	73,438,000	148,000	82,288,000	121,000	82,867,000	7,900	4,806,000
1929	759,000	503,900,000	126,000	81,900,000	133,000	82,992,000	108,600	88,184,000	8,100	6,155,000
Six-year Average of Total Production		66.4%	13.0%		11.0%	9.0%		0.6%		

TABLE 2. TOBACCO, FLUE-CURED (TYPES NOS. 11, 12, 13, AND 14):
PRODUCTION, STOCKS, DISAPPEARANCE, AND PRICE 1920-1930

Year	Production (lbs.)	Stocks on hand July 1	Total Supply	Disappear- ance year be- ginning July 1	Average price per pound cents
1920	630,800,000	304,200,000	935,000,000	451,900,000	21.1
1921	371,400,000	483,100,000	854,500,000	413,800,000	21.7
1922	408,800,000	440,700,000	849,500,000	410,800,000	29.0
1923	529,900,000	438,700,000	1,031,600,000	555,000,000	22.3
1924	435,800,000	476,600,000	913,400,000	451,100,000	22.5
1925	576,300,000	462,300,000	1,038,600,000	583,200,000	20.0
1926	564,500,000	455,400,000	1,019,900,000	553,400,000	25.6
1927	715,900,000	466,500,000	1,182,400,000	617,400,000	21.3
1928	740,800,000	565,000,000	1,305,800,000	715,800,000	17.7
1929	750,700,000	590,000,000	1,340,700,000	741,400,000	18.1
1930	857,000,000	599,300,000	1,456,300,000	741,000,000*	13.8

Division of Statistical and Historical Research. Production and price compiled from records of the Division of Crop and Livestock Estimates. Stocks compiled from reports of the Bureau of the Census.

*Estimated.

will not be sufficient to reduce production to the point where prices will be again favorable. Table 3 has been constructed to show the probable effect of varying acreage reductions on the production and total supply of tobacco, together with the probable prices which may be received. In 1930, more than 1,173,000 acres of flue-cured tobacco were harvested. The production, as estimated by the U. S. Department of Agriculture, was 857,000,000 pounds. A 10 per cent cut would give an acreage of 1,055,700. This would produce 739,000,000 pounds of flue-cured tobacco, assuming a 700 pound average yield, which is slightly above the average for the past nine years and 30 pounds less than that received in 1930. It has been estimated there will be on hand as of July 1, a total of 715,300,000 pounds. This carry-over together with the probable production of 739,000,000 pounds will give a total supply of 1,454,300,000 pounds of flue-cured tobacco for the 1931 season, or approximately the same as for the 1930 season when prices generally were unsatisfactory. It is estimated that a supply of 1,454,300,000 pounds will sell from 9 to 12 cents, under present conditions of demand.

Drastic Cut in Acreage Needed to Restore Prices

The fact is that tobacco production has been overdone and that a drastic reduction in acreage is necessary. For the past eleven years 1,000,000,000 pounds of tobacco has brought a fairly satisfactory price. To obtain a production of approximately 1,000,000,000 pounds, acreage should be cut at least 65 per cent. It should be remembered, however, that during most of this period general economic conditions were favorable to a relatively high consumption of cigarettes. A cut of 65 per cent is not within the realm of possibility. The states affected, therefore, are striving to get farmers to make a cut in acreage

one-third under that harvested last year. A cut of one-third would result in an approximate production of 560,000,000 pounds of tobacco. This production plus the estimated carry-over of July 1, 1931, would give a total supply of 1,275,000,

amounted to 53,119,784,232, the highest consumption recorded up to that time in the history of the United States. In 1920 the number of cigarettes manufactured was approximately 11 per cent less than that of 1919, and note furthermore that it was not until 1922 when economic conditions became more favorable that the consumption of 1919 was exceeded. When the present depression is past we may witness another increase in cigarette consumption similar to that which occurred following the 1920-21 depression.

The long-time outlook will also be affected by consumption in foreign countries. According to recent information received by the Department of Agriculture from its representative in England, American flue-cured tobacco is used largely in cigarettes manufactured in the United Kingdom, and in spite of the intensive advertising campaigns of recent years designed to stimulate con-

TABLE 3. ESTIMATED PRODUCTION AND PRICE RESULTING
FROM ACREAGE REDUCTION

Acreage Reduction Under 1930 * (Per cent)	Resultant Total Acreage	Probable Production †	Total Supply ‡	Probable Price Range ¶
10	1,055,700	739,000,000	1,454,300,000	9 to 12
15	997,050	698,000,000	1,413,300,000	9 to 13
20	938,400	636,900,000	1,372,200,000	10 to 14
25	879,750	615,800,000	1,331,100,000	10 to 15
30	821,100	574,700,000	1,290,600,000	11 to 16
35	762,450	533,700,000	1,249,000,000	11 to 17
40	703,800	492,600,000	1,207,900,000	12 to 18
45	645,150	451,600,000	1,166,900,000	12 to 19
50	586,500	410,500,000	1,125,800,000	13 to 20
55	527,850	369,500,000	1,084,800,000	13 to 22
60	469,200	328,400,000	1,043,700,000	14 to 23
65	410,550	287,400,000	1,002,700,000	15 to 25

*The acreage of flue-cured tobacco in 1930 was 1,173,000 acres.

†An average of 700 pounds per acre is assumed.

‡Probable production plus probable carryover of 715,300,000 pounds on July 1, 1931.

¶Depending on quality and general business conditions.

000 pounds. Such a supply would probably sell from 11 to 15 cents per pound.

Long-Time Outlook

While the immediate outlook for tobacco production is discouraging, the long-time outlook is more favorable. Continued low prices over a period of years will result in drastic cuts in acreage planted to flue-cured tobacco. According to reports of the Department of Agriculture, small cigarette consumption in the United States increased from 47,430,105,055 in the calendar year of 1920 to 108,705,505,650 in 1928, or an annual increase of nearly 11 per cent. According to the sale of revenue stamps in 1929 the increase in cigarette consumption over that of 1928 was 12 per cent. It is important to note the very definite check experienced in cigarette consumption in the United States during the business depression in 1920-21. In 1919 the number of cigarettes manufactured

sumption of cigarettes made from Colonial tobacco, little headway has been made in displacing American flue-cured tobacco. On the contrary, its consumption has apparently increased at a rapid rate and it should be remembered that during the past year the manufacturing plants in the United Kingdom used approximately one-fourth of the world's consumption of flue-cured tobacco. The representative further estimates that approximately 70 per cent of all tobacco consumed in the United Kingdom in 1930 consisted of American flue-cured tobacco and that exports of cigarettes made in the United Kingdom in which American flue-cured tobacco was used have increased substantially in recent years. Similar reports come from other foreign countries. It is, therefore, evident to the writer that looking ahead to 1932-33 we may expect a substantial recovery in tobacco prices and hence in economic conditions in those areas in which tobacco is the chief money crop.

Explosives in Pipe-Line Building

THE use of explosives, so extensively employed for many years in the development of rail and highway transportation facilities, is proving equally helpful in the construction of pipe line systems for underground transportation of oil, gasoline and natural gas.

Large quantities of dynamite are used for clearing pipe line rights-of-way of tree stumps and for blasting rock where it is encountered in trenching operations. While in many cases the use of explosives is resorted to as supplementary to the use of trenching machinery, in a great many other instances dependence is placed in dynamite alone to provide means of making trenches to receive lines of pipe.

Pipe line laying at a rate of 4000 to 8000 feet a day is among the marvels of modern construction. In order to accomplish such results, it is necessary to make an adequate trench, to screw or weld the lengths of pipe to form a continuous line and to cover it with earth, sand or other fill material. Such speed on a construction operation is all the more remarkable in view of the fact that pipe lines follow the shortest and most direct courses between given points. All sorts of natural obstacles must be overcome. Over hills and mountains, through swamps, across deserts and under rivers for stretches of hundreds, and even thousands, of miles some of these great lines extend from oil and natural gas fields and refineries to central and supplementary distributing points in or near populous sections of many states.

The Explosives Engineer Plays a Stellar Role in Speeding Pipeline Construction Operations

In order to expedite the work and to reduce the cost of blasting, new methods of using explosives have been developed to meet specific requirements of pipe line construction. Typical of the situation was an operation in East Texas where government specifications for the line across the Trinity River called for pipe to be laid four feet below the river bed. None of the usual methods of preparing holes and loading them could be followed in this case, because of the fact that the current was swift and the water 12 feet deep and 200 feet wide at the specified point. It, therefore, was necessary to adopt a method peculiarly suited to the conditions. A cable was stretched along the line of the projected under-water trench and bundles of five sticks

of dynamite were attached end to end on the cable for the required distance. Small boulders were fastened to the cable every ten feet and the long string of dynamite was lowered into place from a raft. A cartridge in one of the bundles was primed with an electric blasting cap, exploded by an electric blasting machine. The initial explosion of the primed stick of dynamite detonated, in turn, all the other charges by what is known as propagation, whereby an "explosion wave," set in motion by the first shot, travels through water from charge to charge successively with sufficient force to detonate the dynamite. The shot resulted in a trench five feet deep.

Data in this article supplied by the Institute of Makers of Explosives, New York.

Ordinarily, for shooting river bottoms, three methods are followed by explosives experts in making the holes. Submerged rock is drilled by power drills mounted on scows or rafts. In the firm exposed mud of shoals a bar is used to punch holes. For work in mud or shale under water, a pipe as well as a punch bar is necessary. The pipe is cut 12 inches shorter than the required length of bar to pass through the pipe. Both the pipe and the bar are forced down to the river bottom together, the bar remaining in the pipe. The greater length of the bar is necessary in order to make the hole below the bottom of the pipe. After a hole is made, the bar is pulled out; the pipe is left in position until the dynamite is loaded through the pipe. A tamping stick, inserted in the pipe, is used to force the explosive down the hole in the river bed. The stick is left in place when the pipe is pulled out, so as to hold the load in place and to mark its location. Gelatin dynamite is the explosive most generally used, as it is waterproof. Electric blasting caps and a blasting machine are employed to fire the shots.

Frequently, for rock blasting under rivers, holes are drilled 30 inches deep on 30-inch spacings, but depth and distance will vary according to conditions. Likewise, the loads will be governed by particular requirements, both as to type of explosive used and the amount. A case in point was the loading of two sticks of 40 per cent quarry gelatin in each 30-inch hole and the shooting of 46 holes at one time. Each charge was primed with an electric blasting cap and the shooting was done in series electrically. The shot resulted in a trench 30 inches deep through solid rock. The fragments of rock were used for covering the line of pipe after it was lowered into place.

Under Water Blasting Necessitates Introduction of Novel Methods

Indicative of the variety of problems met with in submarine blasting was a

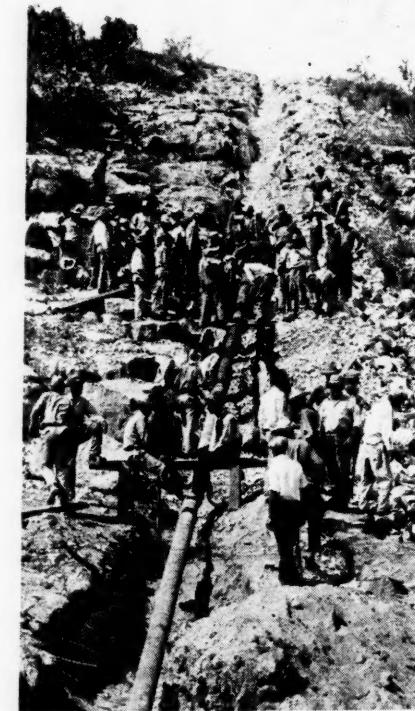
crossing of the Colorado River at a point 200 feet wide, with water 12 feet deep, where a trench was blown through a bed of solid shale. Casings were set from a raft and a drop punch earth socket was used for drilling holes to a depth of 12 feet on 20-foot centers. Three holes were shot at a time. The trench made was four and a half feet deep at the banks and sloped to seven and a half feet in the center of the stream bottom.

Still another interesting example is the crossing of the Wabash River for a distance of 700 feet from the Illinois to the Indiana side. Charges consisted of three sticks of dynamite to each hole, spaced 24 inches apart in a single line. A pipe and punch bar were used to make the holes in the mud and loading was done through the pipe. Although the water was deep and there was considerable current, the holes were punched and loaded in seven hours. Shooting was by the propagated method. A trench with a depth of three to ten feet between banks was blown at a cost of \$56 for explosives in addition to the labor of a few men. After the blast the pipe was successfully pulled across the river and lowered into place.

Varying Ground Conditions Impose Individual Problems

Difficult of Solution

While, on the whole, shooting trenches on land does not present as great difficulties as under-water blasting, some of the operations are beset with rather unusual conditions. But even so, thoroughly satisfactory results may be obtained by any skilled and experienced blaster. Of primary importance is the uniformity of width and depth of the trenches. A distinct set of conditions



Pipe Line Crossing a Dry River Bed
in Texas

The trench in the sloping bank was
blasted out of rock

is faced when it comes to trenching swamps, marshes and other soft areas, though such blasting permits taking advantage of the use of the propagated method of shooting, with resultant saving in time and the cost of blasting caps.

That no barrier is sufficient to halt progress in pipe line building has been demonstrated time and again. In East Texas a virgin forest was traversed, trees were cut down, the stumps blown

out, and the trenching, laying the pipe and covering it were done as a continuous operation in a surprisingly short space of time. In another instance hundreds of feet of 4-foot deep trench were blown at a time in crossing 4600 feet of marsh. Crossing the Ozark Mountains in Missouri and other ranges has been greatly facilitated by the use of explosives. In the Palopinta Mountains, boulders 30 feet high were shot along the right-of-way of a pipe line and a trench 30 inches deep was blasted.

Blasting Operators Supplement

Ditching Machines Work

Where ditching machines are used to excavate trenches, one practice is to have blasting crews precede the ditchers and blast the stumps and protruding rocks within the right-of-way. When the machines encounter rock that failed to show on the surface, earth is stripped from above the rock and it is drilled and shot.

It is pointed out that prior to 1927 a gas pipe line of more than 250 miles was exceptional. In contrast to the situation four years ago is the striking fact that lines 1200 miles long are under construction. Such projects have come about as the result of advances in pipe making and welding, in pumping machinery and in excavation methods.

According to a reliable estimate, there were 80,000 miles of natural gas trunk pipe lines in operation last year, representing an investment of \$2,000,000,000. It has been further stated that during the current year 12,000 miles of additional lines are under construction or projected at a cost of one-quarter billion dollars. Similar developments have come about in transportation of crude oil and refined products, and the end is not in sight.

16,000 Acres of National Forests

Washington, D. C.—The purchase of 16,558 acres of forest land to augment National Forest areas in Eastern, Southern and Lake states, has been approved by the National Forest Reservation Commission, the Forest Service, United States Department of Agriculture. More than half the new purchases lie in or contiguous to the Ozark and Ouachita National Forests in Arkansas, and 1121 acres are in the Kiamichi forest purchase unit in Oklahoma. The Nantahala National Forest in the Southern Appalachians will be increased by 1612 acres, while 2500 acres are to be added

to other forests in the South, including a 381-acre unit in Alabama, 184 acres for the Cherokee unit in North Carolina, Georgia and Tennessee; 453 acres for the Choctawhatchee unit in Florida, 250 acres for the Georgia unit, 365 acres for the Monongahela unit in Virginia and West Virginia, 320 acres at Natural Bridge, Va.; 356 acres of the Pisgah unit in North Carolina, 85 acres for the Shenandoah unit in Virginia and West Virginia, and 117 acres for the Unaka unit in Tennessee and Virginia. The new purchase program follows the larger program approved last February, when more than 250,000 acres of forest lands were designated for Federal purchase.

Canning in Arkansas

A sufficient quantity of vegetables already has been canned by the farmwives of Arkansas to indicate that thousands of farm families next winter will have plenty of food for any emergency, says the Arkansas State Chamber of Commerce. It is a great home canning and preserving movement, sponsored by the State Agricultural Extension Service and carried out through home demonstration agents who conduct classes almost daily in cooking and sealing. In several instances plantation owners have purchased apparatus for canning, the demonstration agents showing the tenants the proper methods of operation.

Granite Industry of Elberton, Georgia

DEVELOPMENT of the granite industry in the territory surrounding Elberton, Ga., marks a high spot in the industrial activity of the state and section. From this area comes some of the world's finest granite for monumental, decorative and building purposes, as well as large quantities of paving blocks, curb stones and crushed rock for road building and general construction.

Millions of paving blocks from Elberton have been used recently in large paving projects on the Island of Cuba and shipments are still being made. Granite for monumental purposes is shipped all over the United States, as well as into Canada and abroad. It is said that many purchasers of fine monumental stone specify Georgia granite in placing their orders. Georgia granite compares favorably with any other in the world. Indeed, only experts can detect the difference between certain grades of Georgia granite and granite from the much-advertised Barre quarries. Fifteen quarries operate in the Elberton area, with several cutting sheds and finishing plants equipped to turn out the finest work.

Dr. F. H. H. Calhoun, geologist, has

the following to say concerning the quality of this granite:

"Rock suitable for many purposes is found in this area. It grades from the finest monumental stone to rock well adapted for any purpose to which crushed rock is put. The stone is massive, and unusually uniform in texture, structure, and mineral composition. Its chief variation is its color which ranges from a very light gray to an unusually dark bluish gray. There are a few areas where the stone has a pinkish tinge. There is some variation in the hardness. Its ratio of absorption is extremely low, varying from .06 to .10. Its specific

gravity varies from 2.66 to 2.84, and crushing strength averages 28,000 pounds per square inch. Average weight of a cubic foot of rock is about 167 pounds. Some of the darker varieties run as high as 177 pounds. The better grades of the stone take a handsome polish."

Shipments of Elberton Granite, 1929*

	Cars
Paving, Building and Monumental....	2,372
Crushed Stone	850
Rip Rap	11
Total	3,233

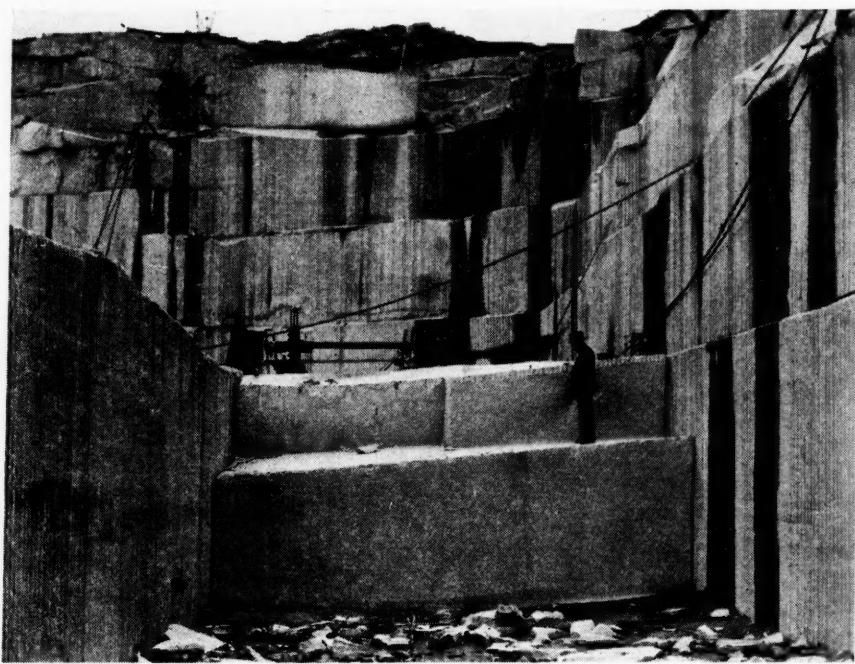
*Figures from Elberton Chamber of Commerce.

Although developments have reached large proportions, the granite industry around Elberton is still relatively young, and the amount of stone available is practically inexhaustible. Numerous large deposits containing millions of tons have not yet been touched. The market for this granite is steadily increasing and, as indicated in the foregoing, the industry is experiencing a constant growth.

Elberton, chief city of the area, is a

Growth of Granite Quarrying in Georgia, With Values

Year	Building	Monumental	Blocks	Paving	Curbing	Rubble	Rip Rap	Crushed	Stone	Misc.
1923.....	\$214,490	\$372,844	\$271,594	\$346,639	\$65,918	\$15,932	\$170,522	...	...	...
1924.....	.....	326,706	234,391	406,829	41,967	.....	137,262	...	...	...
1925.....	.....	292,818	156,663	543,521	41,671	.....	320,145	...	...	...
1926.....	472,561	219,526	163,963	949,833	46,876	348,951	416,268	188	...	...
1927.....	591,979	453,970	405,615	791,559	46,600	24,758	...	...	...	...



Quarry Face Showing Channeling in Preparation of Dimension Blocks for Stock Pile

town of approximately 7000, with a diversified line of industries, ranging from the finishing and polishing of granite to the weaving of broad silk. It is considered one of the most progressive towns of northeast Georgia. In addition to the superior quality of the granite, the Elberton area possesses a plentiful supply of intelligent labor, cheap electric power, excellent transportation facilities and a mild climate permitting operation of quarries the year round.

Aviation Signs Urged

Richmond, Va.—As an aid in the development of aviation in Virginia, Major LeRoy Hodges, managing director of the Virginia State Chamber of Commerce, has written the mayors of practically every city and town urging them to have their communities marked with signs that may be seen from the air. An outstanding need for the advancement of aviation in the state, according to Major Hodges, is better airway marking.

Four-Mile Bridge Over Pensacola Bay

in

Florida

By
JOHN W. COLE
Pensacola

DEVELOPMENT projects representing an outlay of nearly \$3,000,000 were opened to the public at Pensacola on June 13. This investment was made during the depression period and is an expression of confidence in the future of a hitherto little-exploited section of the country. The projects include a \$2,000,000 four-mile bridge across Pensacola Bay; a second bridge, slightly more than a mile long and built at a cost of \$250,000 across Santa Rosa Sound, and a resort casino costing \$150,000 or more at Pensacola Beach, on Santa Rosa Island, at the terminus of the sound bridge.

The bay bridge is a link in the Gulf



Bascule Span at Center of the Four-Mile Structure

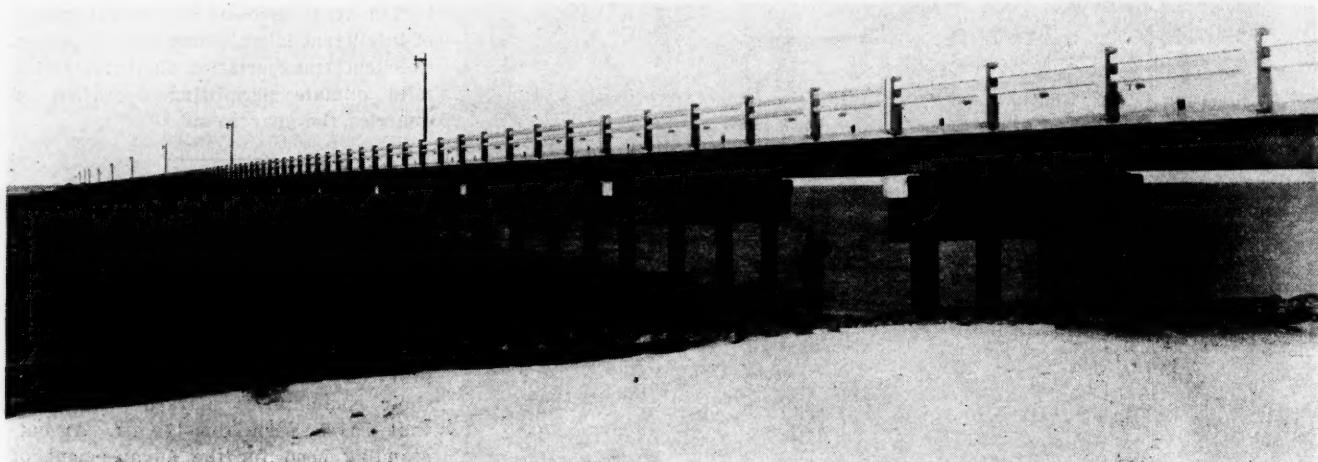
A horizontal clearance of 80 feet is provided. Depth of bay here is more than 30 feet, sufficient for largest ocean-going vessels

Coast Highway which the State Road Department of Florida will have completed by October, and which will reduce the route to South Florida by nearly 100 miles. At present, however, the bridge serves only to take traffic to Pensacola Beach, the only point between Galveston and St. Petersburg at which the Gulf is accessible by automobile to pleasure seekers.

The bridge project was launched in

June, 1927, when a legislative act authorizing the counties of Escambia and Santa Rosa to grant the necessary franchise was signed by the Governor. On July 12, 1927, the counties granted the franchise to Johnson, Drake & Piper, Inc., of Minneapolis, and it was later assigned to the Pensacola Bridge Corporation.

From July, 1927, to February, 1928, preliminary engineering and traffic stu-



Looking North Toward Pensacola From Santa Rosa Peninsula

dies were made to determine financing feasibilities, and the next year was spent in locating the exact site for the bridge and determining engineering details through test piles and borings.

A civic ceremony on February 11, 1929, marked the official start of the bridge. During the next 11 months the necessary equipment and materials were assembled and concrete piles were cast. The first permanent piles were driven in Pensacola Bay in January, 1930. The last piles were driven and structural work was completed the following January. For three months during 1930 all construction was suspended, so the bridge actually was built in nine months.

The owner of the bridge is the Pensacola Bridge Corporation. The builder was the Northwest Florida Corporation, Pensacola. The developer of the land was the Pensacola Beach Corporation. Finances were handled by Johnson, Drake & Piper, Inc., Minneapolis; Siems, Helmers, Inc., St. Paul; and Birch O. Mahaffey & Associates, St. Louis.

Consultants were as follows:

Traffic Surveys — Parsons, Klapp, Brinckerhoff & Douglas, New York and St. Petersburg; Ford, Bacon & Davis, Inc., New York.

Landscape Architects — Stiles & Van Kleek, Boston, New York and St. Petersburg.

Bridge Engineer — C. F. Clements, Minneapolis.

Casino Architect — Carlos B. Schoeppl, Miami Beach.

The Pensacola Bridge consists of reinforced concrete piles and caps with steel I-beam spans and reinforced concrete deck, curb and rails. There are 293 spans, 51 feet center to center, with a vertical clearance of 11 to 17 feet above mean low tide. Approximately 1250 piles, varying in length from 60 to 100 feet, were used. Opening for water navigation is afforded by double-leaf bascule span, electrically operated, having a clearance of 80 feet horizontal and 17 feet vertical when closed. Total length of the concrete spans is three miles; the causeway approaches total one mile, bringing the aggregate length to four miles. The roadway has a width of 20 feet between curbs. Causeway approaches consist of hydraulic fills with an asphalt surfaced roadway.

The Santa Rosa Sound Bridge is a creosoted pile trestle, with deck covered with asphalt-slag surfacing and having bridge spans 3683 feet long. The length of the causeway approaches is 2423 feet, thus the total length is 6106 feet. Roadway width is 20 feet as on the Pensacola Bridge. There are 113 spans with 31 feet horizontal and 14 feet vertical clearance and a swing type steel truss span with a clearance of 80 feet hori-



Showing Concrete Deck and Sturdy Concrete Rails

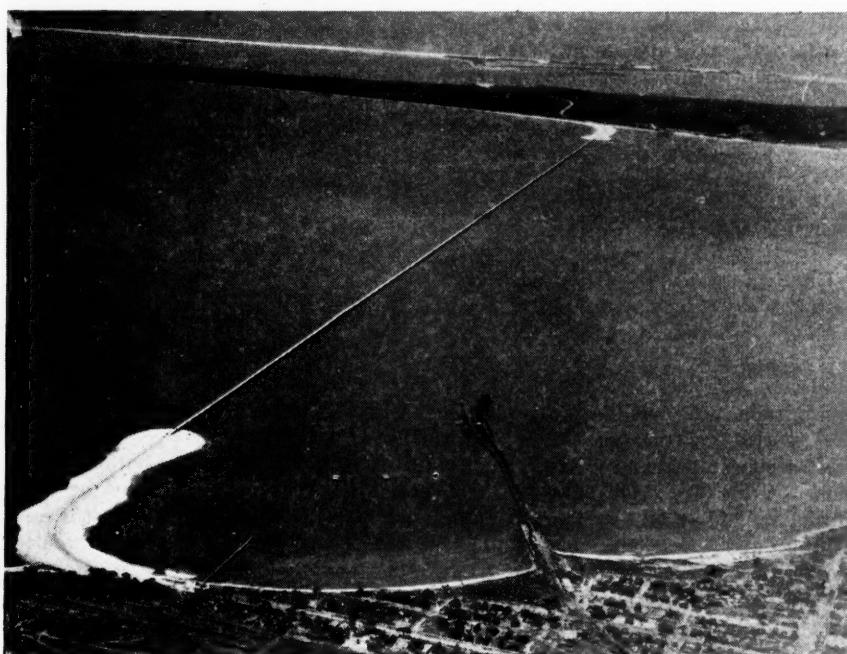
zontal and 17 feet vertical provides an opening for water navigation.

The casino is a reinforced concrete and hollow tile structure built on 25-foot foundation piles and with a floor elevation 18 feet above sea level. The bathhouse has a capacity of 500, the dining room has facilities for seating 300, and the dance hall accommodates 200. A fishing pier 12 feet wide and 1200 feet long, of creosoted timber, is to be provided.

Among firms that supplied materials and handled construction work on the three projects are the following:

American Hoist & Derrick Co., New Orleans.
 Air Reduction Sales Co., New Orleans
 Alpha Portland Cement Co., Birmingham
 Barry, O'Neill & Dedckam, San Francisco
 Birmingham Sash & Door Co., Birmingham
 Bruce Dry Dock Co., Pensacola
 Carnegie Steel Co., Pittsburgh

Clyde Co., Inc., New Orleans
 Coconut Grove Boat Works, Coconut Grove, Florida
 Commonwealth Electric Co., St. Paul, Minn.
 Concrete Steel Co., Birmingham
 Montgomery Corse, Jacksonville
 DeBardeleben Coal Co., Birmingham
 Dixie Culvert & Metal Co., Jacksonville
 Ellicott Machinery Co., Baltimore
 Fairbanks, Morse Co., Jacksonville
 Farwell, Ozmun, Kirk & Co., St. Paul
 Garlock Packing Co., Birmingham
 Harvey Cabinet & Mill Works Co., Pensacola, Fla.
 Industrial Paint Co., Pittsburgh
 Jones & Laughlin Steel Corp., New Orleans
 McGowan Lyons Hardware Co., Mobile
 McKenzie Oerting Co., Pensacola
 Marshall Boat Works, Pensacola
 Monroe Electric Co., Tampa
 Moore-Handley Hardware Co., Birmingham
 Nashville Bridge Co., Nashville
 Naval Stores Copper & Metal Works, Pensacola
 Orton Crane & Shovel Co., Chicago
 Okonite Co., Atlanta
 Patterson Hardware & Supply Co., Mobile
 Peake-Morris Co., Pensacola
 Pensacola Builders Supply Co., Pensacola
 Pensacola Creosoting Co., Pensacola
 Pensacola Hardware Co., Pensacola
 Pensacola Paint & Chemical Co., Pensacola



Air View of the Bridge, With Section of City of Pensacola in Foreground

In the distance is Santa Rosa peninsula, across which runs a winding road to a second bridge over Santa Rosa Sound

Pensacola Shipbuilding Co., Pensacola
 M. A. Quina, Jr., Inc., Pensacola
 John A. Roebling's Sons Co., Birmingham
 Roquemore Gravel Co., Montgomery
 Runyan Machine & Boiler Works, Pensacola
 Southern Tent & Awning Co., Pensacola
 Taylor Hardware Co., Pensacola
 Trussbilt Steel Doors, Inc., St. Paul
 Turner Supply Co., Mobile
 U. S. Rubber Co., New Orleans
 Welded Products Co., New Orleans
 Williamsport Wire Rope Co., Chattanooga
 D. M. Witherill, Pensacola
 Woodward, Wight & Co., Ltd., New Orleans
 Wannamaker, Wells, Inc., Atlanta
 Young & Vann Supply Co., Birmingham
 Crouse-Hinds Co., Syracuse, N. Y.
 General Electric Co., New Orleans
 Brackin Construction Co., Mobile
 J. D. Johnson & Co., Pensacola
 A. M. Lockett & Co., Ltd., New Orleans
 Barrios & Acosta, Pensacola
 B. Mifflin Hood Brick Co., Atlanta
 Virginia Bridge & Iron Co., Roanoke
 Worthington Pump & Machinery Corp.,
 New York City
 Tractor & Machinery Co., Atlanta
 Northwest Engineering Co., Birmingham
 Fowler Electric Co., Toledo, Ohio
 Birmingham Sash & Door Co., Birmingham
 The Georgia Show Case Co., Montgomery,
 Alabama

\$10,000,000 Building Project Announced

Washington, D. C.—Detroit interests represented in this city by W. W. Jordan, 710 McLachlen Bank Building, are having plans prepared by O. Harvey Miller, local architect, for a \$10,000,000 building for a retail merchandise mart, theater and automobile parking space. The structure would be about 500 by 300 feet, 13 stories, the mart and theater to occupy principal portions of the first and second floors, and the 11 upper floors devoted to parking space for 15,000 automobiles. Provision would be made for a swimming pool, bowling alleys and roof garden. Construction would be of reinforced concrete and steel, with granite and Indiana limestone exterior, bronze windows, frames and doors, and equipment would include elevators, sprinkler system, steam heat, air conditioning system and vaults.

\$619,000 Bids on Hospital

Huntington, W. Va.—Low bids aggregating \$619,111 have been submitted to the U. S. Veterans Bureau, Washington, for the construction of a Veterans Hospital here, Worsham Brothers, Knoxville, Tenn., submitting low bid at \$407,000 on the general contract and at \$7888 to erect a steel tower and tank. The Redmon Heating Co., Louisville, Ky., submitted low bid at \$177,492, for plumbing, heating and electrical work, and the Moffatt Machinery Co., Charlotte, N. C., at \$13,366, for elevators. The Philadelphia branch of the York Ice Machinery Corp., York, Pa., was low bidder at \$13,365, for a refrigerating and ice making plant. The hospital buildings and utilities, with the site, will cost about \$850,000.

Economic Importance of Cotton

By HARRY D. WILSON, President, National Association for the Increased Use of Cotton, Baton Rouge, La.

IT is natural that the South's primary interest should be in a profitable market for its greatest staple money crop, cotton. Every person in the United States has an interest in the welfare of the South's cotton producing farmers. Should the cotton industry be eliminated, or even reduced in importance and volume, it is difficult to estimate the amount of economic damage that would certainly result in the United States. The many and varied channels through which this great crop passes make it beyond doubt the largest economic factor in the nation. Many hundreds of thousands of our people are dependent directly or indirectly on cotton as a basis of livelihood.

The American nation is confronted with a situation calling for the application of level-headed business principles as well as genuine patriotism. We are in the midst of a great economic struggle. With the recovery of war-torn nations and their re-entry into world markets a decade ago, the entire complexion of our foreign market structure has been changed. From an agricultural standpoint, and particularly as applied to cotton, we have been transformed from the position of dominance we formerly enjoyed to one in which we are striving to hold our own with powerful competitors.

This situation calls for careful analysis and exercise of the best judgment and sound national political practice if serious results in the form of a general curtailment of operations in the cotton industry is not felt. It is plain that we cannot expect steadily to lose our foreign markets and find no domestic substitutes for those markets while at the same time producing an ever-increasing amount of cotton without playing economic havoc.

With Russia and other nations displacing us as the source of supply for a large amount of the world's cotton, it is essential as a matter of self-preservation that an amount of cotton large enough to maintain a price level commensurate with the cost of American production be absorbed through new uses in this country.

With this purpose in view, and in a spirit of patriotism and direct recognition of the needs of the South, the Na-

tional Association for Increased Uses of Cotton has been created. It so happens that I have been honored by being selected as the first president of this organization which, if given the support that it deserves, will unquestionably play a large part in the establishment of a new era in our business life. As president of this national organization, created for and devoted to achieving the aim and principle of stabilizing our greatest southern industry, I appeal to every loyal American citizen to give enthusiastic support and endorsement to the campaign being waged to promote new and greater uses for America's most valuable and widely needed commodity, cotton.

We can and must make a success of this movement. Cotton is the basis of probably the largest share of our national prosperity. We must not allow it to become anything but an asset, and an industry with its many ramifications to which we may continue to point with natural and justifiable pride.

Will Manufacture Specialties

Nashville, Tenn.—A new plant has been completed here by the Hutchison Engineering Co., and equipment has been installed for the manufacture of specialties. The plant building is 50 by 160 feet, of brick and concrete, with steel trusses carrying a round roof and steel windows and doors. Equipment consists of 85 machines, driven with individual motors, for the manufacture of light machinery and equipment, including a combination twelve-in-one tool, hot pan holder, mechanical metal cigarette box, metal fork for homes and cafeterias, combination electric clock and metal toy games. There is also a nickel plating plant. When in full operation the plant will employ about 40 people. Thomas S. Hutchison, Chicago, is the owner of the plant and consulting engineer; W. C. McCann, Nashville, secretary and treasurer, and Lawrence H. Hutchison, Nashville, mechanical engineer in charge of production.

LETTERS FROM OUR READERS

Improved Railroad Service

Southern Railway System
Atlanta, Ga.

Editor Manufacturers Record:

In your issue of June 25th, under the heading, "The Railroad Alternative," you quoted a Southern newspaper as saying:

"A Southern road in 1900 had a passenger schedule of 15 hours between Atlanta and New York over a single track. Now with heavy rails and double track, it takes seven hours longer to make the same trip."

Since the Southern Railway has the only double track line from the East to Atlanta, the reference is evidently to train No. 97, an exclusive mail train, which was operated from Washington to Atlanta by the Southern in connection with service of the Pennsylvania Railroad from New York to Washington from December, 1902, to January, 1907, on the following schedule:

Lv. New York (Pennsylvania) 2:10
A. M., ar. Washington 7:30 A. M., lv.
Washington (Southern) 8:00 A. M., ar.
Atlanta 12:07 A. M., all figures being
given in Eastern Standard Time, a running
time of 16 hours, seven minutes
from Washington to Atlanta and of
slightly less than 22 hours from New
York to Atlanta.

As stated, this was an exclusive mail train, run in the southbound direction only to qualify for a special Congressional appropriation for fast mail service from New York and Washington to the South and discontinued when the appropriation was discontinued. It handled no passengers and its regular equipment was three postal cars, never more than four.

The present schedule of the "Crescent Limited," operated by the Southern and connecting lines between New York and New Orleans, is the fastest on which any passenger train has ever been operated between these termini, between New York and Atlanta or between Washington and Atlanta. The running time between New York and Atlanta is 22 hours southbound and 22 hours, 9 minutes northbound and is maintained with strict regularity. The operation of this train, performing regular passenger service and carrying nine all-steel cars, can in no way be fairly compared to that of an exclusive mail train.

The railways have made improvements in their service in recent years, particularly since the return of their lines from Federal control in 1920.

It is not too much to say that the railways are now producing the most efficient and expeditious transportation in their history. So far as passenger service is concerned, this service is faster, safer and more comfortable than ever before. In freight service the railways have made an equally notable improvement. The peak traffic movements of a few years ago were handled without

congestion or car shortages and freight schedules are now being operated which only a few years ago would have been considered impossible to maintain.

LAUREN FOREMAN,
Publicity Agent.

Only a Profitable Industry Can

Continue to Pay Wages

New York City.

Editor Manufacturers Record:

On the cover of your issue of May 14, "Industry Must Have a Profit," you commented primarily on price-cutting and cut-throat competition, but omitted the most important element as to why industry must have a profit. In my book, "The Things That Are Caesar's—A Defense of Wealth," in a chapter on the program of labor, I called attention to the fact: "Those who demand what they call an equitable wage ignore the fact that no wage can be equitable which is uneconomic. The first necessity for wage-earners to get any wages at all is that the industry must live. When it is proposed that the principal or plant shall be plundered to pay wages that are not earned and that cannot be paid out of profits, they are proposing nothing less than what the bolshevik in Russia are practicing and the result will be the same."

In this connection I want to call attention to the enormous defaults on mortgages on recently constructed houses and business buildings. A report states that in Chicago alone there are \$400,000,000 of real estate bonds in default, and that throughout the country there are more than \$3,500,000,000 of such real estate loans in default and in foreclosure. An Investment Bankers Association of America bulletin says: "Real estate bond situation is one of the blackest spots in the present financial outlook." It further states that the volume of these bonds in distress is probably around \$10,000,000,000.

The chief reason for the distress of these real estate loans and of the large numbers of foreclosures of real estate mortgages is because the builders who constructed these buildings were compelled to use the extravagant and outrageously costly labor in the building trades which made the buildings cost so much that it was utterly impossible for them to be rented for enough to pay the interest on the cost of construction.

Politicians and even prelates may say that human labor is not a commodity, but if the products of the hands of human labor are commodities, then the labor that made the commodities is equally a commodity, and nobody who says otherwise can change the immutable fact. It is preposterous that any union labor man in the building trades should receive any relief of any kind until he has shown his willingness to work for \$5 a day, or less, like millions of other men are compelled to do.

GUY M. WALKER.

Spend Money at Home

Peeples & Melone
Brokers
Atlanta, Ga.

Editor Manufacturers Record:

North Carolina, South Carolina, Georgia, Alabama and Florida contain approximately the same number of square miles as France, and can produce anything that France can produce, and in addition can produce cotton, the greatest ready-money crop known. This territory, so rich, has a population of about 12,000,000 people, who are having a hard time making ends meet; whereas, France has a population of over 40,000,000 people and, next to the United States, has the largest gold reserve of any nation in the world and tremendous prosperity.

Now, let's see what is the trouble. The Southeast buys practically everything it uses from away from home—life insurance, fire insurance, accident insurance, men's and women's hats, men's and women's clothes, men's and women's shoes, automobiles, machinery of all kinds; in fact, practically everything with the exception of cotton goods, cottonseed oil and its products. Now, let's see what would happen if we could buy, say, 40 per cent of the same commodities at home and still give 60 per cent to outsiders. We would build cities in the Southeast of 500,000 to 1,000,000 inhabitants, making home markets for our products. This would make the most prosperous country the sun ever shone on; for, in addition to the advantages mentioned, we have great potential power resources.

In addition to all the money that has been going out of here for articles mentioned, now have come chain stores, mail order houses and other stores taking what little money used to remain here in the hands of our merchants and sending it also out of this area. How can any area succeed with such a burden of taxation?

I have only scraped the surface, but one can see from this little that, no matter at what price cotton sells or at what price peaches, cantaloupes, oranges, etc., sell, there is little chance of this territory becoming rich unless we live more at home.

E. A. PEEPLES.

A Necessity

Hill Veneer Company

High Point, N. C.

Editor Manufacturers Record:

We regard your magazine as a necessity and not a luxury and feel that it is worth twice the money you ask for it, so we expect to renew our subscription.

J. C. HILL, Secretary & Treasurer.

IRON, STEEL AND METAL MARKET

Dullness Rules in Steel

Pittsburgh, July 6—[Special.]—Steel is now in the midst of its regular summer dullness. By comparison with the activity of last March it seems especially dull, but by comparison with last December there is about the usual showing, production this month being a little lighter than in December, and that has been the experience in active years.

Independence Day is always a strictly observed steel mill holiday and when there is occasion to close a plant for a week or two for repairs this is the time regularly selected. The result is that ingot production last week and this averages but little above 30 per cent, against a peak rate in the latter part of March of 56 per cent and an average of 36 per cent last December.

Increases should begin next week or week after, as a sort of rebound, and then a general seasonal increase should set in as autumn is approached. Production is likely to approach the recent peak rate and if there is the expected improvement in business generally, that peak should be exceeded.

Steel ingot production in the first quarter of the year was 8,000,000 tons, the second quarter running about 7,400,000 tons. Third quarter will hardly equal second quarter, having such a poor start, but fourth quarter may easily be the best of the year. Fourth quarter of last year was under 7,000,000 tons. Second quarter earnings statements soon to appear are likely to compare unfavorably with first quarter statements, poor as those were, since there is a decrease in tonnage, probably slightly higher unit costs, and somewhat lower realized prices on wire products, strips and sheets, other finished steel products being practically unchanged. Henceforth earnings statements should reflect the rigid economies being put into effect.

Some observers taking a long range view are of opinion that steel prices in the next two or three years will average below the present level, on account of sharp competition and greater economies. What the economies will be is not predicted, it being the hard task of the steel makers to find them. The only thing visible now is the probable increase in freight rates, which if it runs the 15 per cent asked would add about a dollar a ton on an average to the cost of a ton of finished steel.

June automobile production is estimated by one authority at 270,000, which would be 17 or 18 per cent decrease from the 327,853 officially reported last week

for May. April was the peak month, at an unusual increase over December and there is a corresponding unusual decrease. The seasonal swings have been particularly large, just as has been the case with steel production.

Fabricated structural steel shipments decreased rather sharply last November, after being remarkably well sustained, showing much less loss than steel consumption in general. There have been further monthly decreases since then, except for a slight increase in April. The showing is directly contrary to an old theory, that depressions are caused largely by decrease in construction work. In this case the times have been reversed, depression tardily causing a decrease in construction.

With the exception of sheets and strips, steel prices are stationary and have shown very little change recently. They are as a rule quite well held. Buyers are exerting little pressure on prices, more swinging around to the view that stable prices are much better.

Substantially all the sheet mills announced advances for third quarter, \$2 to \$5 a ton, with adoption of a new classification, with changes in nomenclature and slight changes in some gauge differentials. Old prices were quoted through June 30, for delivery in July only, and the market is now quotable at 2.40c for black sheets, 2.90c for galvanized and 3.10c for automobile sheets, but it will take time to test these prices. Strips have been advanced a dollar a ton on hot rolled with no change on cold rolled.

Reaction in the Metals Except for Zinc—Lead Steady

New York, July 6—[Special.]—Some of the metals have been reacting from the recent higher levels. Copper which sold at 9 cents per pound at the start of the week soon dipped back to 8½ cents. Tin, which sold at over 26 cents per pound, sold under 25 cents. Lead has been unchanged in price at 4.40c per pound, New York. Zinc has been the only major metal to show continued strength, having advanced to 3.90c per pound, East St. Louis, a complete rise of \$14 per ton above the recent low. Lead has improved \$13 per ton while lead ore or concentrates in the tri-State district have risen \$10 to \$12 per ton.

Sales of copper have been the largest for the year, or a total of 180,000 tons, of which 80,000 tons was sold abroad. The decline in the price of copper on

Tuesday was due to the failure of copper producers to agree on further curtailment of production, important meetings having been held Friday and Monday. Further curtailment is regarded as essential as the June statistics are expected to reveal a further substantial increase in surplus stocks. However, figures for July, August and beyond should be more favorable because of the very large sales in June.

The main reason for the advance in zinc prices is the curtailment of production which has been put in force. However the higher prices may stimulate production and change the trend. The tri-State district in the southern section of the Middle West has taken on new confidence because of the higher lead and zinc prices. It is said that several operators are in readiness to start up idle properties and prospecting has been given an impetus again after having been rather dormant.

Among the advancing commodities the non-ferrous metals have been in the forefront, just as they were when the post-war depression was being broken. Though many believe that metal prices will decline again in the usual reaction from a sudden rise in price, few think that the extremely low levels of spring will be duplicated.

A metal dealer has made the following timely comment on the general situation: "There is a long list of matters at home pressing for settlement which must not be lost sight of in the excitement of the foreign situation. It is well to remember that domestic trade, from a seasonal standpoint, has now dropped to an even lower level than was reached last December and while optimism has a proper place in the picture it is progressive performance that is the principal theme."

The large sales of copper during June do not imply of course that consumption has suddenly increased to the extent of the sales. The buying was largely speculative because of the belief that prices would probably not be so cheap again. Domestic consumers bought copper for shipment over the rest of the year, while foreign users bought three months ahead, the limit which Copper Exporters, Inc., would sell.

Agitation for a duty on copper, which started in Arizona, is finding more supporters throughout the country and the matter is being considerably discussed in Washington. Many maintain that instead of trying to effect further cuts in production a duty on copper would solve the problem of the copper industry. It is pointed out that 250 metals and alloys

carry a duty—so why not copper? The chief stumbling block is that copper producers are not unanimous in their desire for a duty. This is due to extensive American ownership in foreign copper properties.

Zinc, which has so often been the weak sister among the metals, has taken on considerable moral character. In the early stages of the price advance consumers were evidently skeptical as to the genuineness of the movement. They soon became impressed, however, and bought quite heavily at the advancing prices. In fact, sales of zinc during June were probably the largest of the year, as has been the case with copper and lead.

Lead prices have been steady the last few days and the buying movement has subsided. Consumers have bought well into August and quiet is expected for several weeks. Current lead business is now in carload lots whereas previously there had been many sales running into hundreds of tons each.

Quicksilver has run counter to the general trend, having declined \$3 per flask of 76 pounds to \$96, the lowest in several years. Quicksilver prices are more or less artificially maintained by a cartel in Europe, which accounts for the belated decline in prices.

Birmingham Notes a Better Feeling

Birmingham, Ala., July 6—[Special]—Activity recently in the steel market, with structural, plate and sheet participating, has brought about much better feeling in the South and expressions are to the effect that a turn for the better has set in. The Danville, Tenn., bridge for the Louisville & Nashville Railroad, let to the Virginia Bridge & Iron Company, Birmingham shop, 3100 tons, is followed by other tonnages. Ingalls Iron Works Co. is to furnish 460 tons for enlargement of a paper mill at Hodge, La., and Birmingham Tank Co., 300 tons of plate for tank purposes at same mill. Still other contracts have been received, while numerous less-than-100-ton contracts are again reported. Structural fabricating shops are maintaining the four-days-a-week schedule of operations.

The order for 8600 tons of 100-pound rail placed with the Tennessee Coal, Iron & Railroad Company by the Seaboard Air Line Railroad was specified for immediate rolling. The backlog on rail has been going down steadily and the little mass of business received during January is almost down to the bone. When the business on hand does not warrant further operation of the rail mills, employment is to be given to a number of men in placing the open hearth furnaces

and other portions of the works in full trim. Purchase of material for the work that will be carried on is already noted and intimation is given that just as many men as possibly can be used will be kept at work.

Sheet, plate, strip and other mills will continue in operation, the holiday disturbing the pace very little. Estimated on the open hearth furnace operation the steel mills of this section are still going 45 per cent capacity.

A splendid inquiry and indication of new business is submitted by fabricators and bids have been placed on several contracts of size. Plate is being shipped from this district to California and further business of the kind is looked for shortly. Bridges in Louisiana and structures in the Southwest are expected to provide demand for steel. Road building in Louisiana is taking a small amount of reinforcing concrete bars and a little steel in other shapes. Alabama is about to have a \$25,000,000 bond issue which will provide funds for road building during the next three to four years, matching federal money in the development. There will be a certain amount of steel required in this direction also.

The pig iron market shows no change, new business slow and prices firm, in the home territory on a base of \$12 to \$13, No. 2 foundry, while for shipment to other sections \$11. Home consumers are buying against immediate needs only and this means that shipments are in small lots.

Production has not been cut down any recently. Surplus stock is varied, with basic, sand and machine cast foundry and special brand iron. Foundries and machine shops are reporting lower operations. Cast iron pressure pipe manufacturers give encouragement, announcing sales recently in all directions and announcing bidding on several specifications of size. Summer activities in the pipe business will be better than during the second quarter of the year. Optimism is also expressed as to the early fall trade.

The Rockwood Alabama Stone Co., with quarries at Russellville in Franklin County, has received an order for 250,000 cubic feet of stone for the new Pennsylvania Railroad station at Philadelphia. It is estimated that 500 cars will be necessary to transport the stone. This company has been quite successful, having received orders during the past few months for stone used in construction of the Louisiana state house, for the Hinds county court-house in Mississippi, and for the first unit of the Metropolitan Life Insurance Company building in New York City, now under construction. The quarries in Alabama give employment to a large number of men and are operating day and night.

A large complement of men are employed in setting up the universal plate mill at Fairfield for the Tennessee Coal, Iron & Railroad Co. and by the end of the year this industry will be in operation. Much of the machinery was made in machine and foundry shops of Birmingham.

PIG IRON

No. 2 foundry, 1.75 to 2.25 per cent silicon, \$12.00 to \$13.00; No. 1 foundry, 2.25 to 2.75 per cent silicon, \$12.50 to \$13.50; iron of 2.75 to 3.25 per cent silicon, \$13.00 to \$14.00; iron of 3.25 to 3.75 per cent silicon, \$14.50 to \$15.00.

OLD MATERIAL

Steel rails	.....	\$10.00 to \$11.00
Steel axles	.....	12.00 to 12.50
Iron axles	.....	12.00 to 12.50
Heavy melting steel	.....	8.00 to 9.00
No. 1 cast	.....	9.00 to 10.00
Stove plate	.....	7.00 to 8.00
No. 1 railroad wrought	.....	8.00 to 8.50
Car wheels	.....	8.00 to 9.00
Tramcar wheels	.....	8.00 to 9.00
Machine shop turnings	.....	4.50 to 5.50
Cast-iron borings	.....	4.50 to 5.50
Rails for re-rolling	.....	10.25 to 11.00

Steel Work on Hydro-Electric Project

Austin, Tex.—The Fegles Construction Co., Minneapolis, Minn., general contractors for the Hamilton hydro-electric project on the Colorado River, near Austin, of the Emory, Peck & Rockwood Development Co., Austin, have awarded contract for fabricating approximately 250 tons structural steel to Austin Brothers, Dallas. Bids for the penstocks have been received and contract is expected to be awarded soon, while steel fabricators and crane manufacturers have been requested to submit bids on the penstock gate, including guides and frames, and a 60-ton electric traveling crane. The Fargo Engineering Co., Jackson, Mich., are engineers for the project.

\$500,000 Power Plant Extension

Shreveport, La.—The Southwestern Gas & Electric Company of this city, subsidiary of the Central and Southwest Utilities Company, Dallas, Tex., plans to expend \$500,000 to increase the generating capacity of its plant here. A new turbine generator of 18,750 kilowatt capacity will be installed, which will increase the generating capacity of the plant 62½ per cent. In addition to the generator, auxiliary equipment will be installed, including boilers, increased condensing and water-cooling facilities, a new 25,000 kva. substation and new switchboard and control equipment. Work will be started at once and the new generator put in service in about 4 months.

St. Louis County Commissioners, Clayton, Mo., plan tentatively to open bids July 16 for the purchase of \$1,500,000 bonds.

NEW AND IMPROVED EQUIPMENT

Belt Joints That Prevent Leakage

Under many conditions to which conveyor belts are subjected, it is important that the belt joint be positively tight, to withstand leakage. The Flexible Steel Lacing Company, Chicago, makes belt joints which are said to meet these requirements. An accompanying illustration shows a conveyor belt 48 inches wide which handles 600 tons of crushed

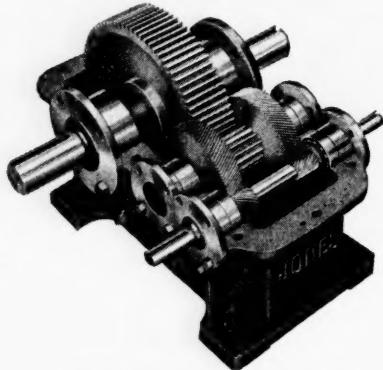


Conveyor Belt With Non-Leakable Joints

stone, coal or lime per hour. The joint was made by Flexco HD belt fasteners and the specific application of the belt is the operation of unloading from ship to yard. In the particular service for which this belt is employed, as well as in other applications, it is important that the belt be so tight that materials may not seep through and that the joint be waterproof so that dampness or water cannot get to the conveyor rolls, thus causing rust. Flexco belt fasteners are made of Monel metal and come in four sizes.

Speed Reducers

A new series of small Herringbone-Maag speed reducers has been developed by the W. A. Jones Foundry & Machine Company, Chicago, the smallest in the series being $20\frac{5}{16}$ inches long and $14\frac{1}{4}$ inches high, with a base $10\frac{1}{4}$ inches



A Small-Size Series

wide. Capacities range up to 18 horsepower. For universal application all reducers in the series have high and low speed shaft extensions on both sides, thus eliminating the need of a right or left hand assembly. Two shaft guards are provided. On the high speed side, herringbone gears—and high speed pinion teeth—are generated by rack shaped cutters, with straight sides, used in a precision gear planer, and on the low speed side the Maag spur tooth form is used because of greater strength needed at this point. The combination is said to make an efficient, quiet and economical method of reducing speed.

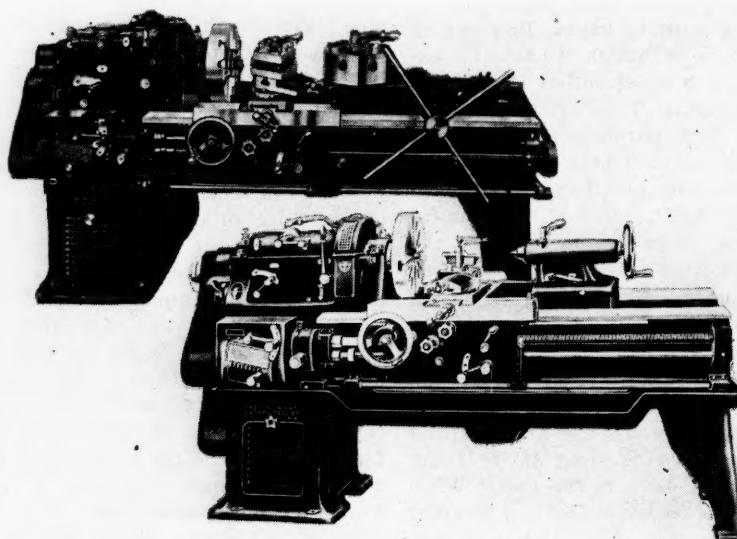
Airport Code Beacon Flasher

The General Electric Company, Schenectady, N. Y., has introduced a new type of code flasher for auxiliary airport beacons. It enables airports to meet Department of Commerce regulations which require that definite code signals be flashed by an auxiliary beacon. The new flasher embodies a cam which revolves once a minute, allowing more than sufficient time to flash any combination of two or three characters. Flashing mechanism is enclosed in a standard surface type steel cabinet six inches square.

Geared Head and Turret Lathes

The Cincinnati Lathe & Tool Company, Oakley, Cincinnati, Ohio, have purchased the Cincinnati patented geared head lathe and the Cincinnati patented turret lathe, with motor mounted inside of the cabinet leg. The geared head unit is supplied in 16-, 18- and 20-inch sizes, for alternating or direct current motors, with silent chain, endless belt, multiple V or direct connected gear drive. Twelve mechanical spindle speeds in geometric progression are obtained in as many seconds by shifting the lever to cover every requirement most economically, although 24 speeds can be secured if needed. A control lever on top of the head-stock starts and stops the lathe. On a 6-foot bed, the weight of the lathe is 2800 pounds and on a 10-foot bed, 4400

pounds. Hexagon bed turrets are made automatic revolving and with automatic independent feed stop for each face of the turret arranged for hand or for power feed. Power feed drive is from a pulley on the rear of the feed rod to another rod at back of the bed, the feed disengaging automatically by a trip which stops within a reasonable degree of accuracy, but is supplemented by a positive stop enabling the operator to finish lengths accurately to .001, it is said. By means of a lever on slide, the turret may be indexed to any position without returning slide to extreme end of stroke. Beside reducing operating expenses, an advantage claimed for this equipment is its ability to cut any standard simply by shifting two levers. It is unnecessary to transfer work to another machine for threading.

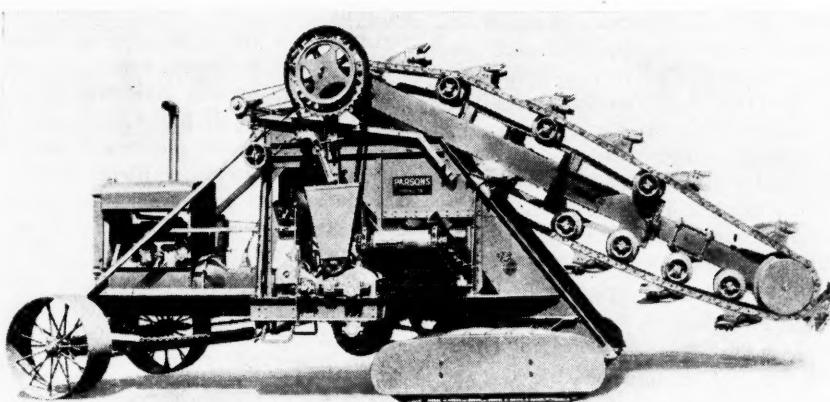


Above Is the Cincinnati Turret Lathe, Below the Geared Head Lathe

Parsons Pipe Line Trencher

A new Parsons Model 35 pipe line trencher, described as embodying basically important features, has been announced by the National Equipment Corporation, Milwaukee, Wis. The machine is said to provide increased operating speed and efficiency, dependability and long service, both in pipe line and general trench excavating. It offers a number of improvements, having a frame 3 feet longer, permitting the introduction of an additional three speed transmission directly behind the engine, giving three speed ranges. Koehring

type heavy duty multiplanes having cast steel frames and self-cleaning tumblers have been installed, and the conveyor has been equipped with a wider belt fitted with guide clips to prevent any movement off center. It is also fitted with cleats to prevent any slipping of material. The fuel tank is provided with a vacuum device by which the tank may be filled from a barrel standing on the ground without risk of spilling the fuel. The new model has an exceptional range, being able to excavate to a depth of 15 feet and up to 4 feet in width. Fast in ordinary soils, it is said to be particularly adapted to operation in rough country.

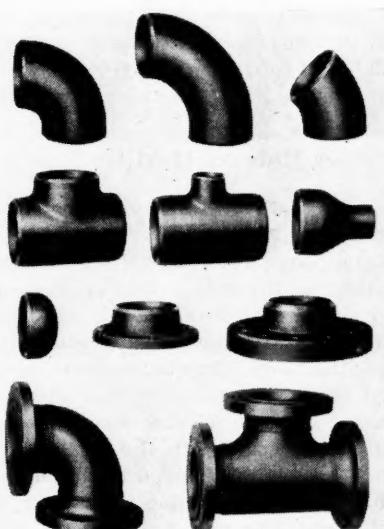


Excavates to a Depth of 15 Feet and to 4 Feet in Width

Seamless Steel Fittings

The Taylor Forge & Pipe Works, Chicago, have developed a line of seamless steel pipe fittings for welding, consisting of elbows, tees, reducing tees, bull plugs and reducing nipples. These fittings permit entire pipe systems fabricated by welding to be installed with only the use of true circumferential welds, said to be the easiest to make. Light in weight, Taylor fittings require fewer and lighter supports than are ordinarily used and require less space in erection. Elbows are made without thinning or buckling of the walls and ends are machine tool beveled, as are all Taylor forge fittings. Tees are a forged tubular product made to pipe thickness at the ends, with sweep outlets, an important feature for lines of high velocity. Reducing nipples are designed especially for welding, with the length sufficiently long to aid installation, yet shorter in dimension, it is claimed, than the screwed nipple. Bull plugs are forged under approved forging conditions, formed to an ellipsoidal shape to withstand end pressure, while the Taylor butt welding flanges, which have

been on the market more than three years, have a long fillet at the hub to prevent distortion and are made to satisfy American Standard strength requirements.



Taylor Pipe Fittings for Welding

Lorain 6 Point Cab

The Thew Shovel Company, Lorain, Ohio, announces the new Lorain 6 point cab as offering six distinct advantages—appearance, accessibility, visibility, ventilation, protection and safety. A change in appearance has been made through substitution of curves for angles, with the roof, rear corner posts and back and side panels blending to give a streamline effect. Doors slide from the inside at strategic points at both back and sides, design and location having been considered from the standpoint of ventilation, accessibility and visibility. The rear of the cab consists of three full length sliding panels on three separate tracks, the doors being held in position by a special locking device. Heavy material and construction have been employed in this all-steel unit. The cab



An All-Steel Product Made of Stronger Materials

of a shovel or crane is often used to advertise the name of the owner and his services; thus each of the two sides of this Lorain cab offers two panels for advertising.

\$25,000,000 Alabama Road Bonds

Montgomery, Ala.—Similar bills passed by both houses of the General Assembly authorize a state-wide election on a \$25,000,000 bond issue for highways. Each of the bond issue amendments to the constitution carries a proviso for a 1 cent gasoline tax increase to refund 6 per cent bonds.

HIGHWAYS AND MOTOR TRANSPORT

Use of Rail Motor Cars Increases

In an effort to increase efficiency and economy in operation and counteract declining passenger revenues, particularly on branch lines, 62 railroads of the United States, Canada and Mexico have, since 1923, installed in service 730 rail motor cars, according to a report submitted at the closing session in Chicago on June 24 of the Twelfth Annual Convention of the Mechanical Division of the American Railway Association.

Of the total number of railroads, 58 located in the United States have placed in service 673 rail motor cars, while three Canadian roads have installed 50 and one Mexican road, seven.

For the most part, these cars are being operated on lines where traffic is light and as a substitute for steam trains. The cars vary in size but for the most part they have a seating capacity ranging from 40 to as high as 121 passengers.

The value of rail motor cars lies in the fact that they are less expensive to operate than a steam train, but yet satisfactorily meet passenger, mail and express traffic requirements where, from an economic standpoint, conditions do not warrant more extensive service.

The report was submitted in behalf of the Committee on Automotive Rolling Stock by the Chairman, P. H. Hatch, of New Haven, Conn., Engineer of Automotive Equipment of the New York, New Haven and Hartford Railroad Company.

\$1,000,000 Road Bond Sale

Independence, Mo. — A new issue of \$1,000,000 road and bridge bonds has been sold by Jackson County to the First Union Trust & Savings Bank, Chicago, Ill., associated with the First Wisconsin Company, Milwaukee, and the Prescott, Wright Snider Co., Kansas City, Mo. The bonds were sold as 4s at a price of 101.911.

New Buses for Greyhound Lines

Kansas City, Mo.—A steady increase in net earnings of the Greyhound Lines has resulted in the purchase of 83 new coaches, at an average cost of \$14,000 each and the employment of 250 additional drivers, according to announcements here. Delivery of the buses has been made and about half the number of new drivers engaged, with applications now being received at the Kansas

City office of the company for drivers on the Western lines. Of the new buses, 32 were allocated to Eastern Greyhound Lines of Ohio and New York, 10 to Eastern Greyhound Lines of Michigan, 10 to Pickwick Greyhound Lines. The purchase brings the total number of coaches operated by the company to more than 4000.

Bids on 112 Miles Roads

Atlanta, Ga.—Bids will be opened July 15 by the State Highway Board, J. W. Barnett, chairman, for 19 road and bridge projects, the former covering a total of 112 miles. Ten projects call for 64 miles of concrete, three for 30 miles of grading and drainage construction, and two for 18 miles of limrock. Four projects call for a bridge at Madison in Morgan County, one in Schley County, a bridge across the Savannah River at Fifth street in Augusta, Richmond County, and one on the Donaldsonville highway between Seminole and Early counties.

Road Construction Active

Jefferson City, Mo.—According to the State Highway Department, a total of 411 road construction projects were under way on June 1, 1930, on which contractors were employing 8822 men, and of whom more than 50 per cent were local labor. Since that date contracts have been awarded for 76 additional projects, involving an expenditure of \$4,000,000, and before the end of the month bids will have been received by T. H. Cutler, State Highway engineer, on 40 more projects to cost about \$1,500,000, bringing the recent commitments for road construction to \$5,500,000.

Asks Bids on 41 Miles Roads

Raleigh, N. C.—Bids will be opened July 21 by the North Carolina Highway Commission on 10 road projects covering a total of 41.1 miles. One project calls for a mile of hydraulic fill in connection with a bridge now nearing completion over the North River in Carteret County, and another for 1.5 miles of grading and paving on West Market street running out of Greensboro in Guilford County. Two projects call for 6.5 miles of asphalt; two for 9.9 miles of grading, top soil and structures; two for 10.2 miles of grade and drainage construction, and two for 12 miles of macadam.

Meeting of Highway Equipment Manufacturers

The American Road Builders' Association, Charles M. Upham, engineer-director, Washington, D. C., by recent agreements with the American Association of State Highway Officials, Highway Research Board, Bureau of Public Roads, Ready Mixed Concrete Association, Department of Commerce and other organizations, has formulated, through committees, reports on eleven subjects relating to road building equipment. Other associations and institutes are cooperating in presenting reports on pavement types. To hear these reports on the manufacture, use and development of highway equipment and to outline plans for further investigations, the American Road Builders' Association has called meetings at the Association's offices in the National Press Building, Washington, for July 13 and 14. The New Willard Hotel is headquarters for the Association and reservations may be made for accommodations.

The following program has been arranged for the meetings:

July 13—Committee on standardization of shoes for truck and tractor snow plows; committee on standardization of blades for truck scrapers; committee on traffic devices and their application; committee on equipment for spreading and finishing pavement surfaces. Joint meeting—Committee on compaction of fills as affected by type and size of haulage and other equipment, and committee on rock excavation, earth excavation and classification of excavation.

July 14—Committee on bins, batchers and equipment for handling and weighing bulk cement; committee on equipment for construction of low cost road surfaces; committee on central and truck mixed concrete; committee on highway location; sub-committee on new developments of surveying instruments and aerial topography; committee on standardization of rental rates for state-owned equipment and the establishment of the relationship between these rentals and those recommended for privately owned equipment.

Bids on Ohio River Bridge

Henderson, Ky.—J. J. Brown, director of the Indiana State Highway Commission, Indianapolis, opens bids July 15 on contracts Nos. 6 and 7 of the Ohio River bridge project from Evansville, Ind., to Henderson, consisting of bridges in the north approach embankment to the main river bridge. No. 6 contract calls for the construction of two bridges, each of five 40-foot spans, the abutments to be of the solid, counterfort wall type, with intermediate supports of open bent construction and a superstructure of reinforced concrete deck girders. All abutments and bents will be of reinforced concrete on timber piles. Contract No. 7 consists of one structure of twenty-four 40-foot spans and another of one 24-foot span.

CONSTRUCTION DEPARTMENT

and

NEW ENTERPRISES

Covering the initial announcements of new undertakings with additional information about enterprises previously mentioned. The date at the end of an item indicates preliminary facts were given in a previous issue.

When writing to a new firm or corporation the name of at least one of the incorporators should be placed on the envelope to expedite its handling by the local postoffice. Mail may be delayed unless complete address is given.

Building and Construction Proposed and Contracts Awarded; Manufacturing, Mining, Power, and Land Developments; Public Works; Transportation; Communication; Financial Enterprises; New Business Opportunities Reported in the Sixteen Southern States.

The Daily Construction Bulletin of the Manufacturers Record gives each business day advance news published in this weekly review. It is invaluable to those requiring prompt information. Subscription price \$40.00 a year.

Airports, Airplane Plants, Etc.

Ark., Arkansas City—Geo. W. Reese, County Surveyor and Engr., advises city is not contemplating erection of airport. 7-2

Fla., Miami—U. S. Coast Guard, Washington, D. C., reported, received low bid from Fred Howland, 1600 N. W. 14th St., Miami, Fla., at \$37,675, for constructing airplane hangar, seaplane base. 6-25

Fla., Pensacola—Chicago Bridge & Iron Works, Birmingham, Ala., reported, has contract for gasoline storage tanks at Naval Air Station. 3-5

Ga., Warm Springs—A. S. Persons supervising construction of aviation field.

La., New Orleans—National Airport Engineering Co., Ltd., Los Angeles, Calif., reported, low bidder to design layout and supervise construction of runways, lighting for night flying, administration building, hangars, radio and air traffic control signals for Shushan Airport, under construction by Levee Board; John Klorer, Ch. Engr. of Levee Bd., has general charge of construction of airport. 6-25

Miss., Natchez—Natchez Service Club, reported, interested in development of airport.

Tenn., Kingsport—W. J. McKenzie, Airport Specialist of U. S. Dept. of Commerce, Washington, D. C., reported, acquired a large tract about 6 miles from Kingsport on Lee Highway for airport; plans state and city appropriation of \$3000 for beginning development work; ultimate cost \$150,000; S. A. Dorsett, Chmn., Airport Committee. 5-14

Tex., Duncan Field, San Antonio—Kenneth S. Colburn, Inc., Pasadena, Calif., reported, has contract at \$59,403 for construction and completion of two air corps hangars with annexes and compressor rooms; Capt. A. S. Harrison, Constr. Quartermaster, Fort Sam Houston. 5-28

Tex., Randolph Field—N. A. Saigh Co., Builders Exch. Bldg., San Antonio, reported, low bidder at \$17,500 for sprinkler irrigation system; Capt. A. W. Parker, Constr. Quartermaster.

Tex., Randolph Field, San Antonio—Capt. A. W. Parker, Const. Quartermaster, receives bids July 25 for illumination of flying field.

Va., Langley Field—See Telephone Systems.

Bridges, Culverts and Viaducts

Proposed Construction

Ga., Atlanta—Fulton County, C. M. Holland, County Pur. Agt., opens bids July 20 for reconstructing Broad St. viaduct, est. \$63,000; remove present steel bridge and build new steel beam bridge with reinf. conc. slab railings, conc. piers, etc.; city sharing expense; following estimating on general contract: Geo. A. Clayton Co.; Griffin Construction Co., 452 Spring St., N. W.; Pittman Construction Co., Rhodes Bldg.; Brazell, Miller & Newbanks, Norris Bldg.; Geo. Spruill, Moore Mill Road; MacDougald Construction Co., 289½ Peachtree St., N. E.; Austin Bros. Bridge Co., 1195 Mickleberry St., S. W.; Virginia Bridge & Iron Co., Healey Bldg.; Meador Construction Co., 10 Harris St., N. W., all Atlanta; J. W. Leroux, Goldstein St., Tampa, Fla.; Fred A. Clawson, Jacksonville, Fla.; Ingalls Iron Works

Co., 720 Fourth Ave., S., Birmingham, Ala.; Harrison-Wright Co., 4 W. Third St., Charlotte, N. C.; Steel & Leby, Holston Bank Bldg., Knoxville, Tenn.; plans by C. E. Kauffman, City Bridge Engr.

Kentucky—State Highway Coms., O. K. Allen, Chmn., Baton Rouge, has low bids for 2 bridge projects. See Roads, Streets and Paving.

LOUISIANA—State Highway Coms., O. K. Allen, Chmn., Baton Rouge, has low bids for 6 bridge projects, totaling \$1,937,071, in following parishes:

Bossier-Caddo—Over Red River, Shreveport, Shreveport-Monroe Highway, List & Weatherly Construction Co., Rwy. Exch. Bldg., Kansas City, Mo., \$718,632;

Rapides—over Red River, Alexandria, Alexandria-Shreveport Highway, Cole & Moore, Guthrie Bldg., Paducah, Ky., \$417,231;

Ouachita—over Ouachita River, Monroe, Monroe-Shreveport Highway, Stevens Bros., St. Paul, Minn., \$485,813;

Natchitoches—over Cane River, Natchitoches-Alexandria Highway, Boyce Kershaw, Inc., Mobile, Ala., \$51,386;

Bossier—east approach to Shreveport Red River bridge, Fleniken Construction Co., Shreveport, \$90,513;

LaSalle—overpass over Missouri Pacific R. R. near Tullos, Tullos-Trout Highway, B. N. Davis, 1006 Tchoupitoulas St., New Orleans, \$15,580. 5-28

La., New Orleans—Texas & Pacific Ry. Co., E. F. Mitchell, Ch. Engr., Dallas, Tex., reported, completed survey of site for public belt bridge over Mississippi River; actual construction may start within 6 weeks. 5-21

Maryland—State Roads Coms., L. H. Steuart, Sec., Baltimore, start work within 60 days on \$750,000 bridge over South River. 6-4

Maryland—See Roads, Streets and Paving.

Md., Chesapeake City—U. S. Engr. Office, Wilmington, Del., opens bids Aug. 4 for reinforced concrete highway bridge over Back Creek.

Md., Towson—County Coms., has low bid from August C. Stinger, 3309 Hillen Rd., Baltimore, for bridge, Marilyn Ave., Deep Creek, 15th Dist.; Samuel Green, Engr. 6-25

Oklahoma—See Roads, Streets and Paving.

Tenn., Paris—State Highway Dept. of Highways and Public Works, Nashville, and Louisville & Nashville R. R. Co., W. H. Courtenay, Ch. Engr., Louisville, Ky., plan viaduct over tracks, E. Wood St.

Contracts Awarded

Okl., Tulsa—City let contract to Rucks-Brandt Construction Co., Thompson Bldg., at \$308,857, for 21st St. bridge.

Canning and Packing Plants

Fla., Davenport—Florida Citrus Exchange, 605 Zack St., Tampa, reported, interested in formation of Davenport Fruit Growers Assn., to operate packing plant; plans acquiring old exchange house on Orange St., will raze, erect new building and install equipment for handling 300,000 boxes of fruit a season.

Fla., Largo—Citrus City Growers Assn., John S. Taylor, Pres., reported, begin immediate construction of packing plant; contract for steel frame work, costing \$80,000, has been let to International Steel & Iron Co., Evansville, Ind.; building will be 156x191 ft., with 8 ft. platform running along

both sides; contract for machinery including 6 cars of packing units consisting of washers, dryer, sizers, conveyors, etc., has been let to Florida Citrus Machinery Co., Dunedin. 4-9

Tex., Mission—Texas Citrus Fruit Growers Exchange, increased capital \$200,000 to \$300,000.

Coal Mines and Coke Ovens

Ky., Blackley—Dortha Coal Co., incorporated; Grant Campbell, George Webb.

W. Va., Huntington—Birmar Coal Co. First Huntington Natl. Bank Bldg., capital \$25,000, incorporated; C. C. Garred, First Huntington Natl. Bank Bldg.

W. Va., Morgantown—Oakmont Coal Co., incorporated; S. D. Brady, 429 Grand St.

W. Va., Wheeling—City Coal Co., incorporated; H. C. Werner, Hervey Heights.

Concrete and Cement Plants

Va., Roanoke—Ready Mixed Concrete Corp., capital \$25,000, incorporated; Howard S. Rice, Salem.

Cotton Compreses and Gins

Fla., Marianna—A. B. Williams will operate and is supervising construction of cotton gin and installation of machinery in collaboration with W. H. Boswell of Murray Gin Co.; buildings will include cotton gin house, warehouse, and cotton seed house, also a small office building; conc., wooden studding and sheet metal; equipment will consist of four 80-saw Murray gins, cleaner, baling press, blower and conveyors; at present time it is planned to use direct electric drive although it is possible this may be changed to a Diesel power plant. 6-4

Ga., Valdosta—C. E. Baker, Savannah, completing negotiations for erection of ginnery for International Vegetable Oil Co.; capacity 125 bales daily.

La., Shreveport—Lindsey Gin & Seed Co., capital \$25,000, incorporated; S. J. Harman, 3100 Fairfield Ave.

Tex., Pawnee—Pawnee Gin Co., Inc., chartered; T. J. Carnes, Harry Olson.

Drainage, Dredging and Irrigation

Florida—See Miscellaneous.

Tex., Harlingen—Organization of Cameron County Water Control & Improvement Dist. No. 19 confirmed at election. 7-2

Tex., Wichita Falls—Wichita Falls Drainage Dist. No. 2 applied to County Comr. Court for permission to issue and sell \$53,000 bonds; probably take bids about Aug. 1 for work; Wichita Falls Water Improvement Dist. No. 1, A. H. Britain, Atty., will share half expense.

Va., Norfolk—Dir. of Operations, U. S. Shipping Bd., Merchant Fleet Corp., Washington, D. C., has low bids for dredging 750,000 cu. yd. for improving approaches to Army base piers; Hydraulic process, B. F. Tyler, Norfolk, 15.4c per cu. yd.; scow-dredging process, Trimount Dredging Co., 10 State St., Boston, Mass., 12.6c per cu. yd.

Va., Richmond—U. S. Engr. Office, Norfolk, let contract to Atlantic, Pacific & Gulf Dredging Co., 15 Park Row, New York, for 59,585 cu. yd. maintenance dredging, James River, at \$11,815. 6-11

Electric Light and Power

Electric light and power work in connection with many LAND DEVELOPMENT operations involves the expenditure of large sums of money. See that classification for details.

Ga., Atlanta—Georgia Power Co., Electric Bldg., placed order for 13,776 ft. cable from each of following companies: General Electric Corp., Okonite Co. and General Cable Corp., for 19,000 volt, three conductor cable, to be used in connecting new Grady substation in Atlanta with downtown business section; one cable will end at State Capitol, where it will pick up existing underground networks; other two will be laid to Wall St. and Central Ave., where they will pick up existing networks leading to other substations; work of laying new duct lines will begin latter part of July, completion expected about October 1.

La., Shreveport—Southwestern Gas & Electric Co., Marshall Bldg., reported, construct 18,750 k. w. power unit addition to its Arsenal Hill generating station, also install new boilers, increased condensing and cooling water facilities, a 25,000 kv-a sub-station, and necessary switchboard and control equipment; company controlled by Central & South West Utilities Co., James C. Kennedy, Pres. Dallas, Tex.

N. C., Greensboro—North Carolina Public Service Co., N. Elm St., K. K. Garrett, Gen. Mgr., reported, expend \$10,000 for extension of lines on McConnell Rd. and along Guilford-Jamestown highway.

Okla., El Reno—City voted a renewal of the 25 yr. electric franchise to Oklahoma Gas & Electric Co., Oklahoma City; also recently granted electric franchise in Oklahoma City, and Ada.

Okla., Shidler—See Gas and Oil Enterprises.

Tenn., Nashville—Tennessee Electric Power Co., reported, let contract to Allied Engineers, Inc., Chattanooga, for erection addition to outdoor substation to power house on Second Ave., North; install equipment; cost \$67,000.

Tex., George West—Central Power and Light Co., San Antonio, acquired electric utility property formerly owned by George West Utilities; completed plans for building transmission line from Three Rivers generating station to George West; 12 miles long, about completed; will be operated at 11,000 volts; Tom Jenkins, Mgr.

Tex., Randolph Field, San Antonio—See Airports, Airplane Plants, etc.

Flour, Feed and Meal Mills

Va., Brookneal—J. H. Berry, Propr., Brookneal Mill, reported, plans rebuilding burned mill.

Foundry and Machine Plants

Mo., St. Louis—Negotiations, reported, nearly complete for consolidation of Fulton Iron Works Co., 1259 Delaware St., into a \$8,000,000 enterprise, with operating plants in St. Louis, Chicago, Ill., and Birmingham, Ala., and Springfield, O.; company will be merged with Goslin-Birmingham Mfg. Co., Inc., Birmingham, Ala. and becomes subsidiary, through stock ownership of Whiting Corp. of Chicago, which company will also supply working capital; deal has been approved by stockholders committee and Bd. of Directors of Fulton Iron Works and is subject on part of Fulton Co. to ratification by its creditors and majority of its stockholders.

N. C., Charlotte—John T. Hardaker, Bradford, England, representing British interests, plans incorporating company in Charlotte, to be known as John T. Hardaker, Inc., capital \$100,000, establish textile machinery plant, corner Fourth and Poplar Sts.; Boone D. Tillet, Law Bldg., Charlotte, local incorporator.

Garages and Filling Stations

Ark., Beebe—W. L. Sneed, representative for Magnolia Petroleum Corp., Magnolia Bldg., Dallas, reported, let contract for service station.

Ark., Dermott—W. C. Renfroe, reported, construct garage.

Fla., Brooksville—Coogler Brothers Co., let contract to C. M. Emerson, Brooksville, for garage and showroom; 1-story and basement; 100x45 ft.; conc. and tile floors.

Fla., Tampa—John B. Moody Co., incorporated; J. B. Moody, Jr., 4619 Woodmere Road.

Md., Baltimore—Jos. J. Barkowski, 716 S. Montford Ave., erect filling station; brick, 1-story.

Md., Baltimore—Kublitz & Koenig, Emerson Tower Bldg., engineer for garage and show room Edmondson Ave. and Franklinton Rd.; brick; 1 story; 60x80 ft.

Miss., Pass Christian—Vincent Marquez will occupy garage and filling station to be erected corner Davis Ave. and Second St.

Mo., Joplin—Clarence Zuvekas, Propr., Uptown Garage, 513 Joplin St., erect addition.

Mo., Kansas City—Skidmore-Milton Oil Co., Kansas and Berger Sts., construct filling station, N. W. corner 23rd St. and Prospect Ave.

Mo., Kansas City—Chrysler Kansas City Co., incorporated; Roy P. Swanson, 906 Commerce Bldg.

Mo., St. Louis—T. H. Cutler, Ch. Engr., Jefferson City, receives bids July 13 for construction division garage building.

Mo., St. Louis—South-End Auto Service, incorporated; W. C. Hoag, 5055a Alabama St.

Mo., St. Louis—Weber Motor Co., capital \$50,000, incorporated; Homer H. Weber, 2019 Alameda St.

N. C., Gastonia—Textile Motor Co., capital \$50,000, incorporated; P. R. Smith, C. W. Bannerman.

N. C., High Point—James Farlow construct filling station, Springfield Ave. between Apex and City Limits.

N. C., Mooresville—Sherill Motor Co., capital \$50,000, incorporated; F. C. Sherill, C. A. Sherill.

N. C., Wilmington—King's Auto Sales and Service, Inc., capital \$25,000, incorporated; W. F. King, Winter Park.

N. C., Wilmington—L. D. Marshburn Motor Co., incorporated; L. D. Marshburn, 316 S. Fifth St.

N. C., Windsor—Windsor Motor Co., incorporated; W. T. Tadlock, H. T. Harden.

S. C., Greenville—Shell Oil Co., reported, will operate oil and gasoline filling station to be constructed corner Laurens and West Coffee Sts.

Tenn., Nashville—Martin Garages, Inc., R. E. Martin, Cotton States Bldg., reported, begin excavation for 7-story garage building on Sixth Ave., about July 15; rein. conc. : front faced with black granite and limestone; capacity for storage of 400 cars; building will contain ramps extending to each floor; equip with rest rooms; parcel rooms; install washing and greasing department on top floor; cost \$200,000; Marr and Holman, Archts.; Stahlman Bldg.; later plan erection of garages in various Southern cities.

Tex., Dallas—Perno Companies, Inc., chartered; Ridgell Keller, 3911 Gillon St.

Tex., San Antonio—I. Meador, 1919 N. New Braunfels St., reported, opens bids soon for 1 story, brick, filling station East Houston near Dawson St.; Magnolia Oil Co., Dallas, Lessee.

Va., Norfolk—Bousch Street Garage Corp., chartered W. L. Cooper, Law Bldg.

W. Va., Morgantown—West Virginia Tire and Supply Co., incorporated; Paul Lininger, W. R. Furman.

Gas and Oil Enterprises

Ala., Selma—Wofford Oil Co., 3331 Ninth Ave., N., Birmingham, reported, establish storage and distribution plant on 2-acre site, end of Plant St., on Alabama River, to receive motor fuel which will be transported by barge and tow boat from Mobile; will have storage capacity of several hundred thousand gal. motor fuel; has under construction tank farm at Montgomery.

Ky., Bowling Green—Bowling Green Refining Co., capital \$110,000, incorporated; John H. Wright, W. P. Harley.

La., Shreveport—Toto Oil Co., incorporated; John B. Greer, City Bank Bldg.

Mo., Fulton—City, C. A. McPheters, Mayor, reported, negotiating with Panhandle Eastern Pipe Line Co., Kansas City, for natural gas.

Okla., Shawnee—City, reported, awarded gas franchise to Western Service Corp., Oklahoma City, subject to ratification by people; will install distribution system within 90 days.

Okla., Shidler—City granted 25-year gas and electric franchise to Oklahoma Power & Water Co., Sand Springs.

Tenn., Memphis—Ford, Bacon & Davis, Inc., 29 Broadway, New York, and Covington, Tenn., general contractor for 100 mile pipe line in Western Tennessee for Memphis Natural Gas Co., Bank of Commerce Bldg., Memphis, have sublet contract compressor station to A. M. Lockett & Co., New Orleans, La., who will install Worthington compressors.

Texas—Texas Pipe Line Co., Texas Co. Bldg., Houston, reported, construct addition

to pipe line from Ira to Texon; cost \$150,000.

Tex., Beaumont—Yount-Lee Pipe Line Co., San Jacinto Life Bldg., capital \$1,000,000, incorporated; M. F. Yount, T. F. Rothwell; company in connection with Sun Oil Co., 1608 Walnut St., Philadelphia, Pa., has under construction pipe line in East Texas.

Tex., Fort Worth—Trentman Oil Corp., incorporated; E. J. Parmley, 2211 Irwin St.

Tex., Fort Worth—Triangle Petroleum Corp., incorporated; Wm. Milberger, Jr., 2606 Greene St.

Tex., Galveston—Pivot Oil Co., capital \$25,000, incorporated; D. D. McDonald, A. N. T. Bldg.

Tex., Leggett—W. H. Freeman Oil Co., incorporated; W. H. Freeman, J. A. Riley.

Tex., Lockhart—Andrews Oil Co., chartered; Fred J. Adams, Geo. W. Lyles.

Tex., Longview—Sabinas Oil Corp., chartered; J. R. Chapman, E. I. Buckley.

Tex., Longview—E. and F. Petroleum Corp., incorporated; S. G. Faust, J. O. Ehlinger.

Tex., San Antonio—Hope Oil Corp., incorporated; E. W. Price, 334 Fairview St.

Tex., Tyler—Texas Jersey Oil Corp., incorporated; L. P. King, D. W. George.

C. Orton, E. L. Martin.

W. Va., Martinsburg—Martinsburg Heat and Light Co. granted permission by Berkeley County Court to extend gas mains along county roads for piping artificial gas.

W. Va., Summit—Domestic Gas Co., capital \$40,000, incorporated; Bernard Sciove, David Howard, Charleston.

Ice and Cold-Storage Plants

Ark., Horatio—J. W. Qualis, De Queen, reported, started work on ice plant.

Ga., Atlanta—United States Cold Storage Co., 2101 W. Pershing Rd., Chicago, Ill., reported, plans early resumption of construction work on Dixie terminal building between Pryor St. and Central Ave., viaduct, according to contract signed jointly by the corporation, Western & Atlantic Railroad and State Coms.; extension of required time for completion and provision for erection of major portion of originally planned structure in 3 units, with the smaller third unit to be optional with the builders, constitute principal variation of new contract; 2 units required will be 9 stories above ground level and cost \$1,500,000; Unit A will be built first and comprise all of cold storage and warehouse space on Central Ave. it will be 8 stories above the viaduct and 1 story in addition to basement below; Unit B will complete the building on Pryor St. up to ninth story and will use for stores and warehouse purposes; tower portion will be third and optional unit; completion of first unit at cost of \$1,000,000 by August, 1933; foundation already has been prepared for building and piling sunk to bedrock; A. Epstein, Engr., 2001 W. Pershing Rd., Chicago, Ill.

Va., Norfolk—E. L. Myers, Dickson Bldg., reported, has contract for rehabilitation of building for Commonwealth Storage & Ice Co., Inc., Posters Lane; steel frame sides and wood roof.

Land Development

Fla., Miami—Refrac Corp., incorporated; C. Gordon, Dallas Park Apts.

Fla., Miami—Mekin Corp., chartered; A. M. Reder, 143 N. E. First St.

Ky., Carlisle—W. J. Curtis, Robertson County, has option on site along U. S. Highway 68, for development of park.

Md., Baltimore—Frank Novak Realty Co., 33rd Street, reported, acquired 139 acres on Herring Run Park and Philadelphia Rd.

Mo., St. Louis—Metropolitan Properties Co., 3354 S. Grand St., capital \$100,000, incorporated; Bernard L. Ottenad, 2221 Ann St.; develop cemeteries.

Mo., St. Louis—Lord Gay Realty Co., incorporated; Conrad Hailpary, 4411 Forest Park Blvd.

Okla., Tulsa—Park Bd. voted to acquire tract at 12th St. and Utica Ave. for development of park.

Tex., Bastrop—Lions Club and Chamber of Commerce, reported, interested in development of state park of 160 acres in Bastrop County.

Va., Newport News—Saunders-Cropper, Inc., capital \$25,000, incorporated; George E. Saunders.

Va., Norfolk—Edwin Realty Corp., capital \$15,000 incorporated; I. T. Van Patten Jr., Algonquin Park.

Va., Norfolk—J. C. Brooks & Co., Inc., capital \$15,000, chartered; J. C. Brooks, Metropolitan Bank Bldg.

Va., Norton—Norton Realty Corp., capital \$75,000, incorporated; F. B. Kline.

Va., Portsmouth—Bangel & Flood, Inc., chartered; Thomas Flood, 448 Wythe St.

Va., Richmond—Old Dominion Realty Corp., chartered; M. D. Baroff, Times-Discpatch Bldg.

Va., Tacoma—Home Land & Investment Co., Inc., capital \$50,000, chartered; H. L. Horne.

W. Va., Clarksburg—National Building Corp., capital \$75,000, incorporated; D. W. Cork, 239 Clay St.

W. Va., Huntington—Robert L. Archer, Inc., chartered; Robt. L. Archer, 1505 Sixth Ave.

Lumber Enterprises

Ark., Hope—Hempstead Lumber Co., incorporated; D. K. Bemis, Hope; T. M. Bemis, Prescott.

Fla., Tampa—Enterprise Lumber Co., incorporated; T. H. Calhoun, S. W. Lake.

Metal-Working Plants

Ark., Fort Smith—Yaffee Iron & Metal Co., 1107 S. A St., increased capital from \$100,000 to \$130,000; reported, plans expansion.

Mining

Ark., Guton—Minerals Development Corp., capital \$50,000, incorporated; John W. Denton.

Ark., Little Rock—Arkansas Abrasive Stone Co., Inc., chartered; A. W. Taylor, Wallace Bldg.

Ga., Perry—Perry Limerock Co., develop and operate 2 limerock plants at Ross Hill, 3 miles from Perry, and 1 near Grovania; limerock to be shipped for building roads; J. W. Tompkins, Ocala, Fla., in charge of both plants.

Oklahoma—Eagle-Picher Lead Co., Temple Bar Bldg., Main & Court Sts., Cincinnati, O., advises have not definitely decided to build a concentrating plant in Tri-State District of Oklahoma; should plant be built work would be by own organization.

Tenn., Knoxville—Tennessee Quartzite Producers, Inc., successors to Crab Orchard Quarries, Inc., Crossville, operating five quartzite quarries near Crab Orchard and Crossville; reported, leased office building 1501 Washington Ave., and storage yard, 1400 Washington Ave.; has lease with purchase option on 8722 acres in five tracts in Crossville area.

Tex., Gonzales—Coen Co., Inc., will begin drying and crusher plant to prepare kaolin for shipment; will handle 50 carloads per month.

Miscellaneous Construction

Ala., Mobile—Turner Terminal Co., reported, let contract to D. E. Jett Construction Co., 1711 Old Shell Road, for \$50,000 fire repairs to oil and boat terminal.

Ark., England—Plum Bayou Levee Bd. let contract to Oscar Kochitzky, England, at \$31,750, for repairing slopes and restoring grade on 40 mi. levee, east bank Arkansas River, Jefferson and Pulaski Counties, Scott to Robroy, 400,000 cu. yd.; W. D. Dickinson, Engt., Rector Bldg., Little Rock. (See Pine Bluff, 6-11.)

Florida—U. S. Engr. Office, Col. L. V. Frazier, Dist. Engr., Florida Theatre Bldg., 128 E. Forsyth St., Jacksonville, advises regarding work of flood control on Lake Okeechobee, at present office has under construction number of experimental levee sections to obtain data in preparing plans for work soon to be undertaken by contract; plan issuing plans about Aug. 1 covering approx. 6 mi. levee and navigation channel; preliminary to submission of bids; it is desired that any prospective bidders who plan bidding on levee and navigation channel visit site of preliminary work and acquaint themselves with conditions under which work will be carried out and obtain such information and data as may be available for use in preparing bids; work will cover excavation and placing of muck, rock, shell and sand.

Ga., Brunswick—Southern Ry., B. Herman, Ch. Engr., Washington, D. C., let contract to Sam N. Hodges Co., Erlanger Bldg., Atlanta, for additions and alterations to warehouse and docks at Turtle River docks; rein. conc. walls and slabs, wood piling, etc.

Louisiana—U. S. Engr. Office, Second New Orleans Dist., foot of Prytania St., New Orleans, opens bids July 31 for 650,000 cu. yd. earthwork under straight contract, Item S82, Egg Bend Levee, new and riverside enlargement, 1 to 23 and 9 to 14 ft. high.

La., New Orleans—Following estimating on general contract for 7102 ft. new levee on riverfront of Delacroix and Bekka Plantations for Bd. of Levee Commrs., Orleans Levee Dist., 606 Common St., 190,000 cu. yd. earthwork, and 7200 ft. gravel road; Levee—O. O. Ogden, Louisiana Natl. Bk. Bldg., Baton Rouge; Adema Gravelot Construction Co., Pointe a la Hache; Lower Coast Construction Co., Godechaux Bldg., and D. G. Villere, 1926 Poydras St., both New Orleans; road—Adema Gravelot Construction Co. and D. G. Villere.

La., New Orleans—Florida East Coast Ry. Co., L. C. Frohman, Prin. Asst. Engr., St. Augustine, Fla., made tentative arrangements with Bd. of Commrs. of Port of New Orleans for new car ferry service between here and Havana; use terminal on Industrial canal, connecting river and lake; plans call for constructing slip and track layout to connect with Public Belt Railroad, thereby connecting car ferry with all railroads entering the city.

Md., Baltimore—City, Bd. of Awards, let contract to North Eastern Construction Co., 6 W. Madison St., for repairing floor area, Pier 9, McComas St., for Port Development Coms., Jas. H. Preston, Chmn., City Hall.

Maryland—Supt. of Lighthouses, Baltimore, Md., opens bids July 15 for furnishing and placing rip rap and driving steel sheet piling (piling to be furnished by government) at Point Lookout lighthouse depot.

Md., Curtis Bay, Baltimore—U. S. Coast Guard, F. C. Billard, Washington, has low bid from Maryland Metal Building Co., Race, and McComas Sts., at \$10,600, for boat basin and engine shop.

Mississippi—U. S. Engr. Office, P. O. Box 667, Vicksburg, opens bids July 16 for constructing 32,000 cu. yd. earthwork, east bank Mississippi River, Mississippi, Sec. B, Dennis Landing enlargement and New Levee, Item 2, 375 mi. below Cairo, 24 and 29 ft. high.

Miss., Vicksburg—U. S. Engr. Office has low bid from Chicago Bridge & Iron Co., Chicago, Ill., at \$14,304, for steel pontoons.

Missouri—U. S. Engr. Office, 707 Postal Telegraph Bldg., Kansas City, opens bids July 16 for furnishing labor, minor materials and revetment mattress materials and performing work for constructing about 3692 lin. ft. standard pile clump dikes and about 4950 lin. ft. standard revetment, Missouri River, Tete-Sauve Bend, 5.0 mi. upstream from Miami, Mo.

Missouri—U. S. Engr. Office, 707 Postal Telegraph Bldg., Kansas City, let contract to W. P. McGeorge & Co., Foot of Nebraska St., Pine Bluff, Ark., for 14,800 lin. ft. standard pile clump dikes and 6000 lin. ft. standard revetment, Missouri River, Weavers and Pomeroy Bends.

Missouri—U. S. Engr. Office, 707 Postal Telegraph Bldg., Kansas City, let contract to Bihorn, Bowers & Peters, Inc., 1811 Ry. Exch. Bldg., St. Louis, at 101,580, for 5180 lin. standard pile clump dikes, Missouri River, Isbell Reach.

Va., Newport News—Chesapeake & Ohio Ry. Co., H. C. Pearce, Dir. Pur. and Stores, Cleveland, Ohio, will purchase several tractors and trailers, costing approx. \$35,000, to replace hand trucks on merchandise piers.

Va., Norfolk—City, A. B. Pleasants, Asst. Dir. Public Works, advises not contemplating any reconstruction work in area burned recently.

Miscellaneous Enterprises

Ala., Montgomery—Foley's Bakery, 112 North Perry St., plans rebuilding plant.

Ark., Bingen—Ed. Scott, Nashville, reported, has contract for building packing house for Murfreesboro-Nashville Southwest Railway Co.

Ark., Stuttgart—Union River Mills Corp., chartered; C. W. Martin, 1109 Welch St., Little Rock.

Ark., Walnut Ridge—Continental Utilities, Inc., chartered; H. L. Ponder, Walnut Ridge.

Fla., Hialeah—Miami Jockey Club, Inc., reported, let contract to Robt. G. Lassiter Construction Co., S. W. 27th Ave., Miami, for construction of artificial lake at Hialeah race track; Smith & Riddle, Supvg. Engrs., 210 Royal Palm Way, Palm Beach.

Fla., Jacksonville—Standard Drug Co., incorporated with authorized capital of 50,000 shares of no par value, fully paid, non-assessable, common stock, with general offices at 221 Lynch Bldg. and laboratory at 116 E. Adams St., for manufacture of Liv-ro; available plant capacity 10,000 bottles daily; T. S. Gray in charge of laboratory.

Fla., Jacksonville—Automatic Mail Holder Co., Box 3541, H. L. Sipe, Pres., constructing plant for manufacture of metal specialties, daily output 1000; 50x100 ft.; corrugated or steel frame; install dryers, metal shears, etc. See Want Section—Machinery and Supplies. 6-23

Fla., Leesburg—St. Johns River Boat Line, operating Leesburg to Jacksonville, completed preliminary arrangements for warehouse site on Lake Griffin canal.

Fla., Miami—Tailox Manufacturing Corp., chartered; H. M. Reardon, 58 N. Miami Ave.; manufacture musical instruments.

Fla., Tampa—Gulf Coast Racing Assn., Inc., G. J. Kennedy, Pres., Tampa, applied for permission to construct and operate horse race track on 160 acres in the inter-bay peninsula section near Gandy Bridge; C. W. Welty, Pittsburgh, Pa., also interested.

Fla., Tampa—Standard Fruit & Steamship Co., Union Indemnity Bldg., New Orleans, La., reported, acquired banana importing business of N. Geraci & Co., 6th Ave. and 23rd St.

Ga., Atlanta—Gilbert Beers, 514 Bona Allen Bldg., reported, has contract for factory building for Gaylord Container Co., 229 Grant St., to be erected Blasfield Ave., S. E.; office, 1 story, 26x52 ft.; factory, 1 story, 196x220 ft.; plain and rein. conc.; brick walls; stucco; metal skylights.

Ky., Frankfort—Union Underwear Co., J. A. Goldfarb, Pres., Indianapolis, Ind., reported, completed plans for establishment of underwear plant; building to be constructed by local contractors; work to begin about July 30.

Ky., Owensboro—Ohio River Mills, Inc., capital \$150,000, chartered; Robt. P. O'Brien, W. F. Robinson.

La., Bogalusa—Como Burlap Bag Co., capital \$15,000, incorporated; Joseph Moss, S. Cohen; installing machinery in building on Austin St.

La., Hodge—Southern-Advance Bag & Paper Co., Inc., controlled by Advance Bag & Paper Co., 38 Newberry St., Boston, Mass., reported, let contract to Ingalls Iron Works Co., Birmingham, Ala., for 460 tons of structural steel for addition; Birmingham Tank Works, subsidiary of Ingalls Iron Works Co., also reported, has contract for 300 tons of tank work, plate furnished by Tennessee Coal, Iron & Railway Co., Birmingham, Ala.

La., New Orleans—See Miscellaneous Construction.

Md., Walkersville—William L. Brann and Robert S. Castle, acquired Chestnut Hill Farm, 146 acres, near Frederick, for breeding farm.

Miss., Greenwood—Stockholders of Jefferson Title & Indemnity Co., Wathall Hotel, Jackson, voted to merge with Gulf States Fire Insurance Co.

Mo., Lexington—Lexington News Publishing Co., chartered; Harry Booth, A. J. Schneider.

Mo., Springfield—Highway Steel & Manufacturing Co., capital \$20,000, incorporated; Claud C. Cox, Court House.

Mo., St. Louis—Roach-Lecoutour Construction Co., capital \$50,000, incorporated; Clifford Lecoutour, 4162 Flora Pl.

Mo., St. Louis—Eskimo Frozen Products Co., incorporated; Otto F. Karbe, Rialto Bldg.; manufacture soft drinks.

Mo., St. Louis—Glocks Laundry, Inc., capital \$40,000, chartered; Norris H. Allen, 208 N. Broadway.

Mo., St. Louis—Larbor Contracting Co., incorporated; Edw. C. Schneider, 312 N. 11th St.

Mo., St. Louis—Sach Corp., incorporated; Milton R. Sach, 1116 Cates St.; manufacture electrical appliances.

Mo., St. Louis—Universal Tile & Metal Structure Co., incorporated; Thoms W. White, 506 Olive St.

Mo., St. Louis—Midwest Industrial Development Co., 231 S. LaSalle St., Chicago, Ill., reported, receives bids about July 10 on superstructure of 5-story and basement building, High, 12 and Morgan Sts., for Star Chronicle Publishing Co., Lessee; F. D. Chase, Inc., Archt., 12 and Morgan Sts.

Mo., St. Louis—Sunny Boy Ice Cream Co., incorporated; Victor Parkman, University City.

Mo., Webb City—Co-Operative Shoe Mfg. Co., incorporated with capital of \$50,000, by E. G. Healey and associates; will re-open old Ozark Shoe Co.'s plant; purchase additional machinery.

N. C., Fayetteville—Interior Motor-Ship Lines, Inc., W. O. Huske, granted charter to operate a bi-weekly line from Fayetteville to Wilmington.

N. C., Greensboro—Sales and Equipment Corp., capital \$50,000, incorporated; L. I. Strauss, Jefferson Bldg.

N. C., Reidsville—Brown-McCollum-Grome Tobacco Warehouse Co., capital \$50,000, incorporated; Fred W. Brown, Yanceyville; F. L. McCollum, Reidsville.

N. C., Thomasville—Luther Grimes and Lloyd Younts, reported, plans rebuilding burned building occupied by Grimes Lumber Co.

N. C., Wilmington—Dow Chemical Co., Midland, Mich., C. A. Branson, Const. Supt., let contract to Dosher Plumbing Co., 111 Grace St., for plumbing work at experimental plant near Kure Beach; installation in two or three buildings now under construction. 7-2

N. C., Winston-Salem—Carolina Marble & Tile Co., Burke St., capital \$40,000, incorporated; E. C. Smith, Walter D. Brown.

Okla., Okmulgee—W. B. Pine and R. D. Pine, reported, acquired plant of Interstate Glass Corp., Oklahoma Ave.; have acquired option on 320 acres dolomite in Arbuckle mountains near Bromide; dolomite contains about 40% magnesium used for manufacture glass; have semi-commercial refinery ready to put into operation; will operate on process patented by Dr. Robt. M. Isham, Okmulgee, and W. B. and R. D. Pine; will utilize gas that has been tapped and is in condition for use in a cracking plant; plant will have capacity of 20 bbls. oil daily.

S. C., Bennettsville—W. Grady Hazel, Thomasville, N. C., reported, acquired Fee Dee Advocate.

S. C., Kingstree—Williamsburg Dairy Products, Inc., chartered; G. T. McIntosh, L. H. Cromer, Jr.

S. C., Saluda—L. B. Eargle, Newberry, acquired Saluda Standard.

Tenn., Chattanooga—Southern Dairies Co., Inc., 160 M St., N. E., Washington, D. C., reported, let contract to J. M. Allen Co., Chamberlain Bldg., for erection of new unit on Dodson Ave.; cost \$23,000. 2-5

Tenn., Eva—Ohio River Sand & Gravel Co., Marietta, O., reported, secured option on sand bar in Tennessee river at Johnsonville for marketing sand and gravel; will erect large plant for loading adjacent to sand bar; Nashville, Chattanooga and St. Louis Railway, reported, secured right of way for 1 mile of spur track from main line near Eva to proposed plant.

Tenn., Jackson—Tennessee School Book Co., Chester and Liberty Sts., capital \$25,000, incorporated; B. B. Johnson, C. W. Hewghey.

Tenn., Memphis—Forest Hill Dairy, 2040 Madison Ave., plans improvements and addition to include conc. and steel garage, providing space for 38 trucks; addition to bottle washing plant, 28x35 ft., steel and conc.; J. T. Phillips, Contr., 1937 Harbert St.; Walter R. Nelson, Archt., Shrine Bldg.

Tex., Dallas—City Building Co., capital \$40,000, incorporated; F. J. Woerner, Central Bank Bldg.

Tex., Port Arthur—C. A. Gaigle, 825 Mobile Ave., and J. W. O'Neal, plans incorporating company for manufacture of patented folding bed.

Tex., San Antonio—Oriental Rug Works, Inc., chartered; H. S. Davis, 127 W. Magnolia St.

Tex., Sherman—Lamar Creamery Co., Paris, acquired milk plant of Boedeker Manufacturing Co. at 112 S. Walnut St.; B. B. Harlan, Paris, will be district manager and have supervision of the plant here in addition to plants at Paris and Longview and pickup stations at Bonham and Honey Grove.

Va., Danville—Danville Nehl Bottling Co., Inc., capital \$30,000, chartered; J. C. Elliott, Blackstone.

Va., Fairfield—American Tar Products Co., Koppers Bldg., Pittsburgh, Pa., advises have no interest at Fairfield and have no plans for plant construction there. 6-11

Va., Fort Myer—Baben & Wright, 916 R. I. Ave., N. E., Washington, D. C., reported, low bidder at \$22,680, for dry cleaning plant for Constr. Quartermaster, Washington. 7-2

Va., Marion—Hotel Marion, Inc., capital \$50,000, incorporated; N. B. Scott.

Va., Newport News—Saunders-Cropper, Inc., chartered; George E. Saunders, James Apt.; building construction.

Va., Norfolk—Lum's Hardware and Plumbing Supply Co., Inc., 517 Park Ave., capital \$50,000, incorporated; A. L. Lum.

Va., Richmond—Eastern Building Supply Co., Inc., chartered; James A. Smith, Jr., 2614 Grove Ave.

W. Va., Parkersburg—Parkersburg Coca Cola Bottling Co., capital \$100,000, incorporated; Edward Nelly, 1024 Ann St.

Motor Bus Lines and Terminals

Ala., Tuscaloosa—Alabama Public Service Commission, Montgomery, reported, granted certificate of public convenience and necessity to Muscle Shoals-to-Mobile Bus Line, Inc., for line extending from Sheffield to Mobile via Tuscaloosa, Russellville, Hamilton, Mt. Vernon, etc.

Ark., Fort Smith—Crown Coach Co., reported, negotiating for Scenic Bus Line operating bus line Fort Smith to Fayetteville.

Tenn., Knoxville—Tennessee Public Service Co., purchased two buses from Twin Coach Corp., Kent, Ohio, replacing street cars on Vestal line.

Tenn., Memphis—Hoover Motor Express, Inc., applied to Memphis Planning Commission, for permission to locate freight terminal at 325 E. Calhoun Ave.

Tex., Cameron—W. L. Kiser, granted permission by Railroad Commission, Austin, to operate bus line from Cameron to Taylor, via Rockdale.

Tex., Cleburne—J. L. Lilly, granted permission by Railroad Commission, Austin, to operate motor bus line from Cleburne to Fort Worth, via Burleson.

Tex., Freeport—Freeport-Houston Truck Line, granted temporary certificates by State Railroad Commission, Austin, for operation Class A motor freight truck lines, Freeport, Houston and Angleton.

Tex., San Antonio—C. B. Whitehead, granted temporary certificates by State Railroad Commission, Austin, for operation Class A motor freight truck line, San Antonio, to San Angelo, via Boerne, Fredericksburg, Mason and Brady.

Va., Norfolk—Hampton Roads Transportation Co., incorporated; J. L. Wright, Pres., 706 35th St.

Railways

Kentucky—Chesapeake & Ohio Ry. Co., C. W. Johns, Ch. Engr., Richmond, Va., authorized by Interstate Commerce Coms., Washington, to delay construction of Levisa River line, Millard to Kentucky-Virginia state line, Pike County. 1-16-30

Ky., Louisville—Kentucky & Indiana Terminal R. R., H. R. Kurrie, Pres., Chicago, Ill., authorized by Interstate Commerce Coms., Washington, to issue \$500,000 first mortgage, 4½% bonds to be pledged as collateral for short term notes.

Md., Baltimore—Arundel Corp., Pier 2, Pratt St., has contract, involving approx. \$2,000,000, for laying conduits for underground electric wires and setting in conc. poles for overhead transmission of current in connection with electrification program of Pennsylvania Railroad between Baltimore and Washington, D. C. 3-19

Md., Baltimore—Baldwin Locomotive Works, Philadelphia, Pa., has contract through Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., for building mechanical parts for 54 heavy electric passenger locomotives for Pennsylvania R. R., W. W. Atterbury, Pres., Philadelphia, Pa., involving \$3,000,000; work to start late in fall. 6-25

Oklahoma—Missouri-Kansas-Texas R. R. Co., F. Ringer, Ch. Engr., St. Louis, Mo., completed purchase of Beaver, Meade & Englewood R. R. 3-26

Oka., Oklahoma City—Atchison, Topeka & Santa Fe Ry., H. W. Wagner, Ch. Engr., Eastern Lines, Topeka, Kans., let contract to Leo Sanders, Traders Natl. Bank Bldg., Oklahoma City, for part of track elevation in connection with depot. (See Railway Shops and Terminals, 5-28)

Va., Norfolk—Seaboard Air Line Ry. Co., W. M. Portlock, Pur. Agt., ordered 8600 tons steel rails from Tennessee Coal, Iron & Railroad Co., Birmingham, involving over \$379,800.

Va., Roanoke—Norfolk & Western Ry. Co., C. Cocke, Pur. Agt., will purchase 20,000 tons 130-lb. steel rail with necessary fastenings.

West Virginia—Chesapeake & Ohio Ry. Co., C. W. Johns, Ch. Engr., Richmond, Va., authorized by Interstate Commerce Coms., Washington, to delay construction of Marsh Fork extension of Cabin Creek branch. 4-17-30

Roads, Streets and Paving

In connection with **LAND DEVELOPMENT** large sums are expended for roads, streets, paving and sidewalks. Details will be found under that classification.

Proposed Construction

Arkansas—State Highway Coms., Dwight

H. Blackwood, Chmn., rejected bids for 13 mi. bitum. conc. surfacing, Highway 65, Faulkner County. 6-25

Ark., Texarkana—City Paving Improvement Dist. 55, P. R. Booker, opens bids about Aug. 15 for conc. paving to cost approx. \$23,000. 6-11

D. C., Washington—Public Buildings and Grounds Coms., call for bids about Aug. 1 for surfacing approaches to Memorial bridge, 17,000 sq. yd.; John Nagel, Engr., Navy Bldg.

Fla., Miami Beach City Council, C. W. Tomlinson, City Clk., opens bids July 15 for oiling and sanding streets, 86,200 gal. hot oil applied, 284,000 sq. yd. sand cover applied or 4400 cu. yd. sand.

Georgia—State Highway Coms., J. W. Barnett, Chmn., Atlanta, opens bids July 15 for 3 roads (grading), involving \$300,000, in addition to those previously announced, in following counties:

Wheeler—8 mi., Route 30, between Alamo and Lyons;

Montgomery—10 mi., Route 30, between Mt. Vernon and Lyons, extending into Toombs County;

Carrollton—14 mi.

Georgia—State Highway Bd., J. W. Barnett, Chmn., will include stretch of road on Rome-Chattanooga Highway No. 1, Taylor's Ridge, Chattanooga County, to Floyd County, in road building program, contracts to be let after July 15.

Ga., McDonough—City, J. O. Tarpley, Mayor, opens bids July 15 for street improvements and storm drainage, 17,650 sq. yd. pavement, 150 sq. yd. sidewalk, 50 sq. yd. driveway, 5475 lin. ft. curbing, 21,000 brick for catch basins, manholes and walls, 18,500 lb. c. t. 2055 lin. ft. 15in. to 24-in. pipe; Knox T. Thomas, Engr., 611 Standard Bldg., Atlanta.

Kentucky—State Highway Coms., H. D. Palmore, Engr., Frankfort, opens bids Aug. 12 for 7 roads and 2 bridge projects in following counties:

Adair—8.4 mi. grading, draining, Columbian-Creelboro-Albany road, end of gravel road 3 mi. south of Columbia via Zion Church to Russell County line near Crouse;

Carroll—bridge, grading, draining, approaching at Four Mile Creek, 2 mi. east of Carrollton, Carrollton-Warsaw road;

Casey—5.1 mi. grading, draining, Liberty-Lebanon road, end of improved road at Steels Knob to Marion County line;

McLean—9.9 mi. surfacing, Calhoun-Beech Grove road, Calhoun to Beech Grove; 5.7 mi. surfacing, Beech Grove-Eastwoods Ferry road, Beech Grove to near Green River at Eastwoods Ferry;

Shelby—3.7 mi. grading, draining, Shelbyville-LaGrange road, end of graded road near Maple Hall School to Oldham County line;

Union—12.4 mi. surfacing, Strugis-Shawneetown road, Sturgis to junction with Morganfield-Shawneetown road near The Rocks, including spur to Henshaw; drainage structures on Morganfield-Uniontown road, box culverts and deck girder spans;

Webster—3.4 mi. grading, draining, Dixon-Henderson (U. S. 41) road, 5 revisions, 3.8 mi. north of Dixon to approx. 1.5 mi. south of Henderson County line.

Ky., Lexington—City Coms., passed resolution for widening S. Limestone St.; set curb line on east side back 20 ft. and build sidewalks.

Louisiana—State Highway Coms., O. K. Allen, Chmn., Baton Rouge, has low bids for 2 roads, both in West Baton Rouge Parish; 1.0 mi. grading, surfacing with washed gravel ballast, Route 119, Proj. A-34, N. H. DeBretton, 360 N. 12th St., Baton Rouge, \$4501; 0.6 mi. grading, surfacing with washed gravel ballast, Route 134, Proj. A-35, N. H. DeBretton, \$2846.

La., New Orleans—Bd. of Comms., Port of New Orleans, New Orleans Court Bldg., plans opening road along newly constructed sea wall in near future; also plans laying out streets and parks in first zone of property to be developed.

Louisiana—State Highway Coms., O. K. Allen, Chmn., Baton Rouge, pave 21 mi. between Bush and Pearl River to complete only missing link of continuous paving between Bogalusa and New Orleans.

La., Jennings—City, C. J. Montagne, Comr. of Streets, asphalt 22 miles streets, \$50,000; Merrill Bernard, City Engr.

MARYLAND—State Roads Coms., L. H. Steuart, Sec., Baltimore, opens bids July 14 for 7 roads in following counties:

Baltimore—2.02 mi. conc., Greenspring Ave., Garrison Ave. toward Baltimore City, B-188-44;

Calvert—1.90 mi. gravel, Chaneyville toward Patuxent River, C-51-82;

Carroll—2 mi. resurfacing with penetration macad., Liberty road, Eldersburg toward Taylorsville, Cl-98-11;

Harford—.93 mi. macad., Aldine road, Havre de Grace to State road, H-125-42; 1.30 mi. conc., Jarrettsville-Baldwin road toward Baldwin, H-128-42;

Montgomery—.75 mi. conc., Laytonville-Woodfield road toward Woodfield, M-100-52;

Wicomico—1.2 mi. conc. along east approach to Vienna bridge, W-178-17.

MARYLAND—State Roads Comsn., L. H. Steuart, Sec., Baltimore, has low bids for 4 roads:

Baltimore City—0.58 mi. sheet asphalt, Waitner Ave., B-106-74, American Paving & Contracting Co., 2525 Montebello Ave., \$71,949;

Caroline—4.83 mi. conc., Anderson-Hickman road, Co-72-22, FAP 238 and 218B, Hanniman Burroughs Co., Salisbury, \$63,357;

Calvert—1 mi. gravel, Coster road, 1.50 mi. from Solomon's Island road toward Dowells, C-46-84; Southern Maryland Construction Co., 20 E. Lexington St., Baltimore, \$19,834; 2.08 mi. gravel, Stokely to Weems Corner, C-48-84, E. Roy James, Havre de Grace, \$21,635. 6-25

Md., Easton—Town, E. G. Kastenhuber, Jr., Engr., has low bid from Former & Comeggs, Easton, for street paving. 6-25

Md., Rockville—Montgomery County Comrs. tentatively adopted road building program involving \$676,500.

Maryland—State Roads Comsn., L. H. Steuart, Sec., Baltimore, approved plans for 20-ft. highway, 5 mi. south of Moore's Corner, Princess Anne County, to Kings Creek, Somerset County, \$375,000 to \$400,000; eliminate grade crossings at Loretto, North Princess Anne, South Princess Anne and Kings Creek.

Miss., Meridian—City opens bids July 15 for 4 street paving projects to cost \$40,000.

Miss., Yazoo City—City, Mayor and City Council, opens bids July 20 for paving and improving sections of several streets: 4700 cu. yd. drainage excavation, 22,130 cu. yd. excavation embankment, 19,814 lin. ft. combination curb and gutter, 270 lin. ft. parkway curb, 851 lin. ft. header curb, 33,164 lb. rein. steel, 2,896 lin. ft. 4-in. tile underdrain, inlets, manholes, 4,590 lin. ft. 15-in. storm sewer pipe, 1,524 lin. ft. 18-in. storm sewer pipe, 472 lin. ft. 21-in. storm sewer pipe, 262 lin. ft. 24-in. storm sewer pipe, 590 lin. ft. 27-in. storm sewer pipe, 1,415 lin. ft. 30-in. storm sewer pipe, 1,006 lin. ft. house drains, 408 ft. 6-in. house drains, 252 lin. ft. 8-in. house drains, 106 lin. ft. 10-in. house drains, 267 sq. yd. reconstructed sidewalks, 592 sq. yd. conc. sidewalks, 34,398 sq. yd. rein. conc. pavement, 3,120 sq. yd. high early strength rein. conc. pavement, 34,919 sq. yd. 5 or 6-in. conc. base, 2,599 sq. yd. 7-in. rein. conc. intersection wings, 34,919 sq. yd. alternate surface courses varying thickness asphaltic conc., cold lay sheet, sand asphalt, emulsified asphalt, Topeka, Warren, sheet asphalt, lime rock asphalt and margerum; 37,518 sq. yd. 2 1/2-in., 3-in. or 3 1/2-in. vit. brick alt.; 16,688 sq. yd. 3-in., 3 1/2-in. or 4-in. black base alt.; 3,354 sq. yd. driveways, 23,828 sq. yd. 42 lb., 6x6x6 gauge wire mesh, 458 sq. yd. conc. alleys, 4 rebuilt inlets; McGowen & Williams, Coms. Engrs.

MISSOURI—State Highway Comsn., T. H. Cutler, Ch. Engr., Jefferson City, has low bids for 43 roads in following counties:

Audrain—1.981 mi. gravel, SY-1A, Ray & Son, Inc., Louisiana, Mo., \$926;

Benton—2416 lin. ft. guard fence, Route 65, Alt. 1, A. E. Walesby, Jr., Independence, \$1328; Alt. 2, Fred M. Clark, Savannah, Mo., \$1799; Alt. 3, Bente-Phillips, Sedalia, \$2319;

Lafayette—1364 lin. ft. guard fence, 13-16, Alt. 1, A. E. Walesby, Jr., \$818; Alt. 2, Fred M. Clark, \$1016; Alt. 3, Bente-Phillips, \$1309;

Clay-Jackson—guard rail, 718M-44A, Alt. 1, Pioneer Construction Co., 270 Glover Bldg., Kansas City, \$10,649; Alt. 2, same firm, \$10,093;

Carroll—4,542 mi. 10-ft. conc. and gravel, 24-20B, Davis Construction Co., Bonville, \$68,735; 2,567, 3,945, 4,935 mi. 10-ft. conc., 24-20C, 24-21A, 24-22A, Davis Construction Co., \$24,733, \$24,929, \$31,997;

Camden—2,923, 2,048 mi. gravel, 5-67, 5-68, Gaines Bros., Eldon, \$13,123, \$10,734;

Clay—3,234, 3,172 mi. chats, SB-1, SB-2, C. W. Rose, Brookfield, \$1347, \$1295;

Cole—4,328, 2,676, 2,439 mi. gravel, SZ-2, SA-4, SA-5, S. G. Hayes & Co., 910 S. Michigan Ave., Chicago, Ill., \$13,829, \$27,528, \$13,075;

Cooper—4,082 mi. crushed stone, 41-12, B. F. Brooks Construction Co., Inc., Love Field, Dallas, \$19,360;

Dunklin—4,990, 4,978, 4,891 mi. 10-ft. conc. and gravel, 25-42, 25-43, 25-44, E. L. Markham, Cape Girardeau, \$51,994, \$72,431, \$61,869;

Howell—4,433 mi. gravel, 17-42, Kelly & Underwood, Granby, \$24,247;

Texas—0,681, 1,515 mi. gravel, \$1521;

Jasper—4,339, 3,960, 3,409 mi. gravel, SJ-1,

SJ-2, SJ-3, Winstead & Gunter, Siloam Springs, \$13,687, \$10,277, \$13,039;

Knox—4,053, 4,335, 3,959 mi. gravel, 6-53A, 6-54A, 6-55A, L. W. Hayes Construction Co., Bethany, \$2335, \$2559, \$2337;

Linn—1,326, 4,74, 3,770 mi. gravel, 5-13C, 5-14B, 5-15A, C. W. Rose, Brookfield, \$299, \$1097, \$17,333, 0.718 mi. 30-ft. graded earth, 5-21, Harry Tidd, Hutchinson, Kans., \$3796;

Newton—1,392 mi. 20-ft. conc., 60-4, Kelly & Underwood, \$57,600;

Osage—2,896, 4,143, 2,111 mi. 20-ft. conc., 50-40A, 50-41A, 50-42B, A. A. Davis & Co., Inc., Cotton-Grain Exchange Bldg., Oklahoma City, Okla., \$34,548, \$85,350, \$29,842;

Oregon—3,153, 2,979 mi. gravel, 19-51, 19-52, Kelly & Underwood, \$19,885, \$30,034;

Platte—4,570, 4,607 mi. 30-ft. graded earth, 92-3, 92-4, Perry McGlone, Harrisonville, \$26,373, \$56,673;

Ste. Genevieve—1,770 mi. gravel, SB-2, C. E. Rich & Co., Troy, \$9105;

Warren—4,062, 1,336 mi. gravel, 47-15, SN-2, Gaines Bros., \$67,846, \$6624;

Worth—3,674 mi. 24-ft. graded earth, SM-1, C. W. Rose, \$9587.

Mo., Springfield—City Council voted for City Engr. to prepare estimates of cost of widening and resurfacing St. Louis St.

Mo., St. Louis—City Bd. of Public Service, City Hall, has low bids for street paving projects, totaling \$145,028; Mimika Ave., Crean & Scott Construction Co., 1242 Sublet St., \$36,893; Wyoming St., Flynn Paving Co., 1405 S. First St., \$33,880; Wyoming St., another section, Granite Bituminous Paving Co., Railway Exchange Bldg., \$42,925; Taylor Ave., Flynn Paving Co., \$33,514.

NORTH CAROLINA—State Highway Comsn., John D. Waldrop, Engr., Raleigh, opens bids July 21 for 10 roads in following counties:

Carteret—1 mi. hydraulic fill, shortening bridge, now nearing completion, over North River, Route 10, between Beaufort and Atlantic, No. 2031;

Lenoir—1 mi. asphalt paving, Route 10, between Kinston and Wayne County line, No. 2561;

Brunswick—5.5 mi. sand asphalt, Route 30, between Shallette and South Carolina line, contingent on meeting location by South Carolina and approval of project by Federal aid, No. 3201;

Chatham—4.3 mi. grading, top-soil, draining, Route 90, between Apex and Pittsboro, No. 4013;

Wake—5.8 mi. grading, top-soil, draining, Route 90, between Apex and Pittsboro (continuation of No. 4780), No. 4780;

Guildford—1.5 mi. grading, paving, West Market St., extended out of Greensboro, relocating Route 60 toward Winston-Salem, No. 5340;

Davis—6.7 mi. grading, draining, Route 10, Mocksville to Yadkin River toward Lexington, No. 7330;

Lincoln-Clay—6 mi. macad. surfacing, Route 28, between Hayesville and Franklin, No. 9250;

Madison—6 mi. macad. surfacing, Route 20, between Laurel River and Hot Springs, No. 9694;

Swain—3.5 mi. grading, draining, Route 107, between Somkemont and Tennessee line, No. 9694.

Oklahoma—State Highway Comsn., Sam R. Hawks, Chmn., Oklahoma City, plans improving State Highway 10 north from Grove to Wyandotte to connect with U. S. 60, and thence north to Quapaw to connect with U. S. 66; ordered survey of Arkansas River south of Sallisaw with view to building bridge and extending State Highway 17 south to Poteau.

TEXAS—State Highway Comsn., Gibb Gilchrist, Highway Engr., Austin, plans 2 roads in following counties:

Bee—9,741 mi. grading, drainage, Highway 127, Minneapolis St., Beeville, to Live Oak County line, SAP 988-A, Unit 1, \$50,000;

Brazoria—13,861 mi. rein. conc., Highway 36, Fort Bend County line to West Columbia, SAP 889-C, Unit 2, \$163,000.

Texas—State Highway Comsn., Gibb Gilchrist, Engr., Austin, authorized completion of grading, draining, Highway 25, Archer County, 14 mi.

Tex., Austin—City, Adam R. Johnson, City Mgr., has plans in progress, for resurfacing old brick pavement, Congress Ave., 11 blocks, various types and plans being considered; H. R. F. Helland, Coms. Engr.

Tex., Cuero—De Witt County, Herman Seekamp, County Commr., drawing plans for hard surfacing lateral road system in Lone Tree, Prairie View and Hochheim Prairie communities, 9 mi.

Tex., Dallas—Dallas County Comms. Court, Chas. E. Gross, County Aud., opens bids July 20 for paving approaches to Corinth St. underpass; Rollins & Clinger, Dist. Engrs., Records Bldg.

Tex., Freeport—City has revised plans complete for paving and underpass, Second St.; F. J. Von Zuben, 802 Fair Bldg., Fort Worth, Consrt. Engr. (Recently incorrectly noted under Fort Worth, 7-2).

Tex., Longview—City, Bill Taylor, City Mgr., voted \$50,000 street paving bonds.

VIRGINIA—State Dept. of Highways, C. S. Mullen, Ch. Engr., Richmond, has low bids for 5 roads in following counties:

Giles—3.22 mi. macad., Route 23, S-61-A1, Sam E. Finley, Roanoke, \$25,387;

Princess Anne—0.216 mi. gravel, Route 502, S-574-D, Sanderson & Son, Cartersville, \$3078;

Frederick—2,483 mi. macad., Route 37, S-593-H1, Pendleton Construction Co., Inc., Wytheville, \$38,933;

Smyth—0.184 mi. macad., Route 10, F-603-F, Pendleton Construction Co., Inc., \$11,971;

Prince Edward—0.207 mi. soil, Route 20, F-644F, J. A. Marrow Construction Co., Inc., Clarksville, \$3069.

Virginia—State Dept. of Highways, C. S. Mullen, Ch. Engr., Richmond, opens bids July 14 for 0.6 mi. mac. alt. gravel, Route 715, S-686-A, intersection Route 39 to intersection Route 28, 6,800 sq. yd. macad., 218 cu. yd. gravel, alt., 15,393 cu. yd. excavation.

VIRGINIA—State Dept. of Highways, C. S. Mullen, Ch. Engr., Richmond, has low bids for 2 roads:

Henry County—9,596 mi. soil (surface treatment), Route 12, F-450-A1, Baskerville & Haskins, McKenney, \$28,261; 9,596 mi. soil (surface treatment), Route 12, F-450-A1, Baskerville & Haskins, \$28,261.

Va., Clarendon—Arlington County Supr. let contract July 16 for Oil Tank road, Rosslyn to north wall of National Cemetery.

Virginia—State Dept. of Highways, C. S. Mullen, Ch. Engr., Richmond, build new road, Mount Vernon estate entrance to Washington-Richmond Highway near Woodlawn.

Va., Petersburg—City expend approx. \$15,000 for resurfacing streets.

Contracts Awarded

Alabama—State Highway Comsn., Landon G. Smith, Dir., Montgomery, let contract to J. B. McCrary Co., 1132 Peachtree St., Atlanta, Ga., at \$47,218, for 4 mi. cement conc. paving, Montgomery-Mobile Highway. 6-4

D. C., Washington—Union Paving Co., Broad and Stiles Sts., Philadelphia, has contract at \$10,101 for conc. base course with curbs, gutters and catch basins on new roadway between Grant Circle, amphitheatre and Arlington Cemetery.

Fla., Hialeah—Miami Jockey Club, Inc., Hialeah and Miami, let contract to Robt. G. Lassiter & Co., S. W. 27th Ave., Miami, at \$91,422, for excavations, lakes, roads, parkways, etc.; includes excavation, etc., for lake in center of track, 1-mi. hurdle track, 1 1/2 mi. racing track, new roads, parking areas, etc., and removal of existing roads, parking areas, etc.

Fla., Sebastian—City, Lenoar K. Park, Clk., let contract to Faulk & Coleman, Cocoa, for 30,000 sq. yd. resurfacing streets. 5-21

Georgia—State Highway Bd., J. W. Barnett, Chmn., let contracts to Coffee County for grading Central Dixie Highway, Nicholls to Bacon County line.

Mississippi—State Highway Comsn., Jackson, let contracts for hauling maintenance gravel: First Dist., B. G. Coggins, Nettleton, \$19,850; Second Dist., B. G. Coggins, \$36,000; Third Dist., H. G. Graham, Meridian, \$8830; Fifth Dist., B. G. Coggins; Sixth Dist., J. M. Todd & Co., Corinth, \$47,780; Seventh Dist., Clark & McCaa, Jackson, \$18,250.

S. C., Anderson—Anderson County let contract to Carolina Road Surfacing Co., Capers Bldg., Greenville, at 13.98 cents per sq. yd., for 23.50 mi. surface treating, Anderson County. 6-18

Tenn., Alcoa—City, V. J. Hultquist, City Mgr., expend \$60,000 for conc. paving and sewers with own force.

Tex., Beaumont—City Comsn. let contract to Scott Shambaugh for paving Madison, Grove and Burt St., at \$62,517. 6-18

Va., Clarendon—Arlington County Supr. let contract to Corson & Gruman, 33rd & K St., N. W., Washington, at \$13,856, for .5 mi. rebuilding Georgetown-Alexandria Pike, known as Tea House road.

Sewer Construction

Sewer construction in LAND DEVELOPMENT projects involves the expenditure of large sums of money. Under that classification details of these improvements are reported.

Ala., Montgomery—Hodgson & Jones Construction Co., N. Berry St., Montgomery, has

contract for sanitary sewers, Fairview Ave. and other streets.

Ark., Dumas—Baker Construction Co., Oklahoma City, reported, has contract at \$44,267 for sewer improvements, including filtering bed, septic tank, 2 pumping plants, etc.; contract is conditional on sale of bonds. 4-23

Md., Baltimore—City receives bids July 15 for sewers, Storm Contr. 167 (formerly Contr. No. 165) Back River. 7-2

Md., Baltimore—W. A. Thompson, Relay, reported, low bidder at \$35,772 for sewers, Sanitary Contr. 283. 7-2

Md., Cambridge—City votes in July on bonds for sewers and disposal plant; Whitman, Requardt & Smith, Engrs., Baltimore Trust Bldg., Baltimore. 4-9

Miss., Yazoo City—See Roads, Streets and Paving.

Okla., Oklahoma City—Earl W. Baker, Perrine Bldg., Oklahoma City, reported, has contract for sanitary lateral sewer, Cashion Place Addition.

Tex., Houston—City, reported, approved plans for Hazard St. storm sewer system; soon call for bids.

N. C., Valdese—See Water Works.

Tex., Beaumont—Ben D. Jackson, J. C. Clemons, Bldg. Com., South Texas State Fair, plans paved walks and streets, storm sewer, drainage system, new gate, etc.

Tex., Longview—See Water Works.

Telephone Systems

Fla., Daytona Beach—Virgil Evans, operating radio station at Knoxville, Tenn., Spartanburg, S. C., negotiating with Chamber of Commerce for establishment of radio broadcasting station.

N. C., Mount Airy—Southeast Public Service Co., reported, acquired local telephone system, plans extending line to Dobson and Elkin, connecting with system at Mount Airy.

S. C., Charleston—Navy Dept. rejected bids for general contract for radio tower, for which Dewey Bros., Goldsboro, N. C., were low bidders. 7-2

Tenn., Englewood—Albert Hicks acquired Inter-County Telephone Co. from J. D. Ball.

Tex., San Antonio—Southwestern Bell Telephone Co., 308 S. Akard St., Dallas, having plans completed, soon call for bids for Woodlawn and Mission telephone exchange building; 2 story; brick and rein. conc.; terra cotta; B. D. Hull, Ch. Engr., Telephone Bldg., Dallas. 5-7

Virginia—Ch. Radio Examiner Yost, Washington, D. C., approved application of Empire Broadcast Corp., Fredericksburg, Va., for authority to erect 4 transmitters in Virginia to test system of synchronization developed by its engineer; 4 studios will be located at Alexandria, Glen Allen, and 2 at Falmouth. 6-26

Va., Langley Field—Office of Constructing Quartermaster, Fort Monroe, receives bids July 28 for construction of radio building. See Want Section—Bids Asked.

Textile Mills

Ala., Montgomery—Capitol Construction Co., Standard Bldg., Atlanta, Ga., reported, low bidder at \$41,000, for construction of 2 mill buildings for West Bostleton Mfg. Co., of Alabama; cloth room—1 story, 106x134 ft.; warehouse, 3 stories, 102x102 ft.; plain and rein. conc.; brick walls; struc. steel; steel sash and doors; Robert & Co., Engrs., Bona Allen Bldg., Atlanta, Ga. 7-2

Ga., Atlanta—Bower & Kaufman, Front St. and Columbia Ave., Philadelphia, Pa., reported, considering removal of silk hosiery plant to Atlanta; contemplates erection of building to cost \$35,000 on site of several acres.

Ga., Austell—The Clark Thread Co., Newark, N. J., advises following have contracts in connection with Austell mill project: Abington Textile Machinery Works, 50 Congress St., Boston, Mass.; Alphons Custodis Chimney Construction Co., 95 Nassau St.; A. W. Buhlmann, 200 Fifth Ave.; Babcock & Wilcox, 85 Liberty St., all New York; Economy Baler Co., Ann Arbor, Mich.; Foster Machine Co., Westfield, Mass.; Huntington & Guerry, Greenville, S. C.; Otis Elevator Co., 260 Eleventh Ave., New York; Roberts Filter Mfg. Co., 630 Columbia Ave., Darby, Pa.; Wallace & Tiernan Co., Inc., 1 Mill St., Newark, N. J.; Warren Steam Pump Co., Warren, Mass.; Whitin Machine Works, Whittinsville, Mass.; Worthington Pump & Ma-

chinery Corp., 2 Park Ave., New York, and R. D. Cole Manufacturing Co., Newnan, Ga.; A. K. Adams & Co., 542 Plum St., Atlanta, Ga., Gen. Contr.; J. E. Sirrine & Co., Engrs., Greenville, S. C. 6-25

N. C., Belmont—Thies Dyeing and Processing Co., reported, re-organized under name of Piedmont Processing Co.; Gerald A. Cooper, Pres.-Gen. Mgr.

S. C., Gaffney—Henry C. Moore, Receiver, for Irene Mills, will continue to operate plant for period of 12 months; permission granted by creditors.

Tenn., Nashville—Walter Fred Hosier Mills, Inc., Walter Fred, Pres., 3900 Charlotte Ave., increased capital stock by selling \$500,000 of preferred stock; provide funds for doubling present equipment; have purchased several 4s-gauge machines and 20 45-gauge machines; also acquired attachments for machines for making nets, lace clocks and fancy lace tops.

Water Works

Details of water works improvements in connection with the many LAND DEVELOPMENT operations will be found under that classification.

Ga., Valdosta—City, W. H. Gainey, City Engr., receives bids July 29 for steel tower and supply tank with capacity of 300,000 gal. together with bids for other machinery for improving water plant. 6-18

Ky., Paris—Scofield Engineering Co., Constl. Engrs., Commercial Trust Bldg., Philadelphia, Pa., advises following contracts let for water works, Contr. 812: Spears

Mill Dam, waterworks buildings and basins, Clarke, Stewart & Wood, 254 Irwin Road, Lexington, at \$39,108; Spears Mill Valve, Eddy Valve Co., 10 S. 18th St., Philadelphia, Pa.; cast iron pipe, 10 in. old, H. & M. Valve & Fittings Co., Anniston, Ala., at \$8250; cast iron pipe, 8 in. and 6 in. new, R. D. Wood & Co., 400 Chestnut St., Philadelphia, Pa., at \$1985; cast iron fittings, R. D. Wood Co.; valves and valve boxes, Rensselaer Valve Co., Troy, N. Y.; hydrants, Vogt Bros. Mfg. Co., 1402 W. Main St., Louisville; laying mains and sewer, Kelso-Wagner Co., Dayton, O., at \$7449; pumps and motors, Dayton-Dowd Co., Quincy, Ill., at \$8645 and Dravo-Doyle Co., Cleveland, Ohio, at \$1030; switchboard and wiring, Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa., at \$4220; Aer-O-Mix and piping, Vogt Bros. Mfg. Co., Louisville, \$2875; flow meters and water level indicator, Republic Flow Meters Co., 2240 Diversey Ave., Chicago, Ill., at \$1230; Control for electric-hyd. valve, Benton Harbor Eng. Works, Benton Harbor, Mich.; filter control valves, Atwood & Morrill Co., Salem, Mass., at \$2560; filter L-H and R-F gauges, Builders Iron Foundry, Providence, R. I., \$1792; float control hydr.-valve, Norwood Engineering Co., Florence, Mass.; filter changes, piping, etc., V. B. Higgins Co., Charlotte, N. C., at \$20,300; contracts for meters not yet awarded. 6-26

Md., Frostburg—Brady Bros., Frostburg, reported, have contract for city water supply.

Md., Laurel—Layne Atlantic Co., Seaboard Airline Rwy. Bldg., Norfolk, Va., reported, has contract for drilling well, furnishing pumping equipment and water distribution system at District Training School. 6-11

Miss., Hattiesburg—Bd. of Commrs. opened bids July 7 for construction of fuel oil storage and supply system at low level pumping station of water works system, also receives bids at same time for construction of oil pump house; Thomas H. Allen, Constl. Engr., 665 McCall St., Memphis, Tenn.

Mo., Cassville—City voted \$12,500 bonds for deep well water supply.

N. C., Valdese—City, J. C. Berry, Mayor, plans voting in July on \$150,000 bonds for water and sewer; has had survey made by J. B. McCrary & Co., Engrs., Atlanta, Ga., for water shed and pond south of Mineral Springs Mountain. 12-18

N. C., Lenoir—City, M. M. Williams, City Engr., plans water and sewer improvements.

N. C., Winston-Salem—Board of Public Works, Harry L. Shaner, Supt., construct gatehouse at city water supply lake; plans being drawn and specifications prepared for raising the crest of the dam about two ft., making an additional 200,000,000 gal. of water available, which can be utilized by gravity; pumps already ordered.

Okla., Chickasha—Robert O. Bradley & Co., Constl. Engrs., Chickasha, advise that plans and specifications for water works improvements, consisting of new filtration and production plants now available at office of engineers; bids opened July 9; proposal

blanks obtained from A. O. Pence, City Clk. 7-2

Okla., Muskogee—City Engr., Ed. K. Brook, reported, let contract to Oklahoma Gas & Electric Co., Oklahoma City, to furnish one half units in the electric low duty water pump at city pump station.

Tenn., Memphis—Bd. of Water Commrs., receives bids for constructing \$2,000,000 Sheahan pumping station in Normal Aug. 12 and Aug. 14, bids advertised after July 9; work will be divided into 10 contracts; separate bids for grading and foundations; superstructure; compressors; 4 pump units; generators; boilers and boiler equipment for either gas or coal fuel; coal and ash handling equipment; electrical work including switchboard; heating and plumbing; capacity of the station will be 15,000,000 gal. daily and everything will be in duplicate so that in emergency plant could produce 30,000,000 gal. daily; bids opened on 3 turbine pumps to be installed at McLean Ave. and Louisville and Nashville Railroad tracks; contract not let; extension of water main system to cost \$6,000 authorized; will lay 6-in. pipe on Greer St., Wilcox and Joffre Sts.; Fuller & McClinton, McCall and Front Sts., Memphis, and 170 Broadway, New York, Engrs.; T. H. Allen, McCall St., Asso. Engr. 5-28

Tex., Corpus Christi—Robert J. Cummings, Constl. Engr., Bankers Mortgage Bldg., Houston, advises bids are to be opened by City of Corpus Christi August 10 for rebuilding La Fruta Dam; principal quantities in connection with this work are: Concrete, 18,000 cu. yds.; excavation, 47,000 cu. yds.; rein. steel, 285 tons; 5 electrically operated tainter gates, 35x20 ft.; 2 sluice gates electrically operated, 6x6 ft.; 1500 tons steel sheet piles; other miscellaneous items, material and labor. 7-2

Tex., Dallas—City, reported, let contract soon for 175,000 new water main construction.

Tex., Houston—Southern Engine & Pump Co., 900 St. Charles St., has contract with city to drill water well and equip with pump and motor, build pump house, and erect a fence around it; total cost \$30,000; are installing Pomona water lubricated turbine pump with capacity of 2000 G. P. M. 7-2

Tex., Houston—City, J. A. Sauls, water engineer, has tentative site for proposed South Side water plant reservoir of 2,000,000 gal. capacity in Hermann Park, south of the pumping plant; cost \$40,000; reservoir will be housed in brick structure with landscaping and terracing.

Tex., Longview—City voted bonds for water and sewers. See Financial News Column. 6-11

Tex., Taylor—City, F. V. Swain, Supt., Water Works, rejected bids on reservoir; will call for new bids; let contract to E. S. Steel for supply of pipe and fittings for water main extension. 6-18

Va., Waynesboro—Town, I. G. Vass, Mgr., opened bids July 10 for water pumping station. 3-19

Va., Yorktown—Dept. of the Interior, National Park Service, Oliver G. Taylor, Engr. in Charge, Colonial National Monument, receives bids July 20 for installation of complete water distribution system, including mains, etc. See Want Section—Bids Asked.

FIRE DAMAGE

Ala., Birmingham—Stockroom of Alabama Paper & Metalware Co., Inc., First Ave. and N. 16th St.; loss \$15,000.

Ga., Thomasville—Residence of J. E. Craig miles.

Md., Great Mills—Garage owned by Herman Coppage Motor Co.

N. C., Old Fort—Plant of U. S. Leather Co., offices in New York City; loss \$150,000.

N. C., Thomasville—Grimes Lumber Co.'s plant; building owned by Luther Grimes and Lloyd Younts; loss \$15,000.

N. C., Vanceboro—J. B. Hellen's buildings; loss \$10,000.

Tenn., Johnson City—Mill of Yoncannon Lumber Co.; loss \$50,000.

Tex., Cross Plains—Cross Plains Hotel, owned by R. D. Thorp, Stephenville, and Jim Daley, Cross Plains.

Tex., Fort Worth—Carlton Hotel, damaged; also cafe, pool room, drug store destroyed.

Tex., Kingsbury—Lynch Hotel; address The Proprietor.

Va., Arlington—Bungalow of Robert Moore.

Va., Bedford—Building owned by Continental Can Co. located near factory in eastern section of city; loss \$20,000.

BUILDING NEWS

BUILDINGS PROPOSED

Association and Fraternal

Ga., Columbus—Stonewall-Lee Lodge, Knights of Pythias, purchased 300-acre tract; improve; plan club house, golf links, tennis courts; W. H. Raymond, Herman Hicks, C. H. Torbett, trustees.

N. C., Winston-Salem—North State Post No. 1134, Veterans of Foreign Wars, Dallas C. Kirby, 421 Nissen Bldg., having plans prepared by Northup & O'Brien, Reynolds Office Bldg., for frame club house; 123x48 ft., stone foundation; hardwood and tile floors; asphalt shingle roof; brass and bronze work.

Md., Overlea—Overlea Baptist Church, Rev. H. G. Carlborg, 4104 Overlea Ave., Pastor, open bids July 10 for church and Sunday school building; 42x70 ft., 2 stories and gallery, stone, slate roof, wood floors; A. C. Leach, 2707 St. Paul St., Baltimore, Archt.; following estimating: Wm. Sands, Towson, Md.; Ralph Simmers, 4547 Harford Rd.; Joseph Ritter, Jr., 5511 Hilltop Ave.; E. Eyring & Sons, 809 Conklin St., all Baltimore; H. E. Fisher, Dundalk, Md.; John H. Otto, Fullerton, Md.

Mo., St. Louis—Compton Heights Christian Church, Rev. James H. Coil, Pastor, 2129 Nebraska Ave., contemplates erecting church on 75x184-ft. site.

Bank and Office

Ga., Atlanta—Fulton National Bank, Boling H. Jones, Chmn., receiving bids (date not determined) for branch bank, Peachtree Rd. and Sims Ave., N. W.; 1 story, basement and mezzanine, 115x72x54x100 ft., rein. conc., struct. steel, hollow tile and brick limestone, granite, cast stone, interior marble, bronze doors, terrazzo, cement, asphalt tile and ceramic tile floors, tar and gravel roof, gas-steam heat; separate bids for cages, check desks, wood wainscoting, marble base, special wood work, vault doors, vault lining and equipment, elect. fixtures and elect. clock; Pringle & Smith, Archts., Norris Bldg.; following contractors estimating: Griffin Construction Co., 452 Spring St., N. W.; A. K. Adams Co., 542 Plum St., N. W.; Barge-Thompson Co., 136 Ellis St., N. E.; Pittman Construction Co., Rhodes Bldg.; Smith-Pew Construction Co., 435 Irwin St., N. E.; Capitol Construction Co., Standard Bldg.; Southern Ferro Concrete Co., Atlanta Trust Bldg.; Brazell, Miller & Newbanks, Norris Bldg.; Ray M. Lee, Box 123, Station C; Chas. Black, Atlanta Trust Bldg.; T. K. Windham, Inc., Mortgage Guarantee Bldg.; Bona Allen Bldg.

Tenn., Lewisburg—First National Bank remodel 2-story building; let contract about July 15; \$25,000; Dougherty, Wallace & Clemons, Archts., Cotton States Bldg., Nashville.

Tenn., Memphis—U. S. Engineer Office, 1006 McCall Bldg., soon ready for bids on \$150,000 office building; 182x122 ft., 3 stories, rein. conc.

Churches

Ala., Birmingham—Canterbury Church erect Gothic type building, Montevallo Rd., Hollywood; 136x216 ft., native stone; Denham & Denham, Archts., Comer Bldg.

Ala., Heflin—Baptist Church soon prepare plans for church building; M. R. Thomas, Archt.

Fla., Miami Beach—Beth Jacob Congregation, Third St. and Washington Ave., J. Albert, member, Bldg. Comm., plans \$40,000 Talmud To Rath (gymnasium, auditorium, etc.); rein. conc., conc. block and stucco, 2 stories; banquet hall seat 300; locker rooms; B. Kingston Hall, Archt., 609 Collins Ave.; drawing plans.

Ga., Atlanta—Pryor Street Presbyterian Church, 606 Pryor St., S. W., completed foundation for \$10,000 Sunday school addition; conc., cinder block and brick, 2 stories and basement, 35x46 ft., oak floors, built-up asphalt and gravel roof; J. M. Shelton, Archt., Bona Allen Bldg. Address Rev. Lawrence A. Davis, 606 Pryor.

La., Monroe—First Baptist Church, O. B. Morton, Chmn., Bldg. Comm., have plans completed about Aug. 1 by Love & Barr, Archts., for \$75,000 Sunday school addition; rein. conc., brick, stone trim, 4 stories, 10x110 ft., rein. conc. foundation, built-up comp. roof, steel and iron work, sheet metal work, tile and marine blackboards.

Md., Baltimore—Lutheran Church of Holy Comforter, Rev. William A. Wade, Pastor, 505 Harwood Ave., has low bid of \$30,758 from William H. Sands, Towson, for church substructure; Richter & Eller, Archt., Read- ing, Pa.

Md., Chevy Chase—Chevy Chase Presbyterian Church receives bids July 13 for 3-story building, brick and stone, slate roof; following estimators: W. E. Mooney, 2339 Pennsylvania Ave.; R. W. Bolling, 1 DuPont Circle; Schneider-Spieldt Co., 1416 F St.; Chas. H. Tompkins Co., 1608 K St., N. W.; Jas. L. Parsons, Jr., 1427 I St., N. W.; W. P. Lipscomb Co., 1406 G St., N. W.; Jas. Baird Co., 1800 E St.; Chas. H. Brooks, Woodward Bldg., all Washington, D. C.

Cleveland, Ohio; Carleton C. Wood, Assoc. Archt., Lowndes Bldg., Clarksburg, 5-21

Dwellings

Ala., Tuscaloosa—A. C. Cade, Sr., erect brick residence; 2 stories and basement, 45x46 ft., conc. foundation, hardwood and tile floors, comp. roof, steam heat; Miller & Martin, Archts., Title Guar. Bldg., Birmingham.

Ark., Halliday, Marmaduke—Tom Payne erecting residence.

Ark., Paragould—L. A. Lawler erecting Spanish type residence, Poplar and Sixth Sts.

Fla., Miami—Donald Kennedy, 12 N. E. Third Ave., erect \$15,000 residence, garage, etc., N. E. 27th St., near Biscayne Blvd.; rein. conc., conc. block and stucco; B. Kingston Hall, Archt., 609 Collins Ave., Miami Beach; drawing plans.

Fla., Palm Beach—H. C. Phipps, N. Ocean Blvd., make \$47,000 improvements to estate; include addition of 3 maids' rooms, enlargement of kitchen, construction of paneled library; Treanor & Fatio, Archts., Phipps Plaza.

Fla., Palm Beach—Gurnee Munn, N. Ocean Blvd., make \$15,000 estate improvements; new swimming pool and pavilion, patio addition; Treanor & Fatio, Archts., Phipps Plaza.

Fla., Palm Beach—P. H. B. Freylinghuysen erect \$89,000 residence, El Bravo Way; Marion Sims Wyeth, Archt., Wyeth Bldg.

Fla., St. Petersburg—Al Lang purchased site from Jungle Terrace Corp.; erect residence.

Fla., St. Petersburg—John W. Johnson, of Chalmers & Co., purchased site from Jungle Terrace Corp.; erect residence.

Fla., Tampa—Lem Woods, Jr., acquired site, Davis Island; erect residence.

Miss., Hattiesburg—J. O. Barron receives bids until July 15 at office Juan G. Landry, Archt., 207 Connecticut Bldg., for brick veneer residence; 2 stories, rein. conc. foundation, tile, asbestos shingle roof, metal columns, steam heat.

Oka., Chickasha—A. D. Schuler, of Dawson Product Co., erect residence; 1 story, brick veneer, 6 rooms; Ye Planry, Inc., 1713½ Live Oak St., Dallas, Texas, Archt.

Va., Richmond—William C. Carr, Grace American Bank Bldg., opens bids July 8 for 2-story and basement residence, River Rd., Westhampton; 92x40 ft.; 11 rooms, 3 baths.

Government and State

D. C., Washington—Navy Dept., Bureau of Yards and Docks, plans alterations and repairs to quarters at Naval Observatory.

D. C., Washington—Navy Dept., Bureau of Yards and Docks received low bid of \$10,397 from Arthur L. Smith & Co., 2539 Pennsylvania Ave., N. W., for time clock vault, Naval Observatory.

D. C., Washington—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., let contract to H. Herfurth, Jr., Inc., 10 Market Place, N. W., for razing buildings on site of post office, 12th and 13th Sts., Pennsylvania Ave. and C St.

D. C., Washington—Following contractors estimating on Public Health Service Bldg., bids opened Aug. 3 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt.: Arthur L. Smith & Co., 2539 Pennsylvania Ave., N. W.; George Hyman Construction Co., 1010 Vermont Ave., N. W.; George E. Wyne, 2539 Pennsylvania Ave., N. W.; George A. Fuller Co., Munsey Bldg.; DeSibour Construction Co., 2009 R St., N. W., all Washington; Charles Shutrump & Sons Co., 1900 Euclid Ave., Cleveland, Ohio; MacDonald & Kahn Co., Ltd., Financial Center Bldg., San Francisco; H. L. Cunliffe, McDowell Bldg., Seattle, Wash.; McCloskey & Co., 1620 Thompson St.; Concord Construction Co., 5631 Sansome St., both Philadelphia, Pa.; The John W. Cowper Co., 843-51 National Press Bldg., Washington, D. C.

D. C., Washington—District Comms., A. L. Harris, Municipal Archt., has plans in progress for \$150,000 fire station, 1008-12 13th St., N. W.; 4 stories, 73x116, brick.

D. C., Washington—Architect of the Capitol, David Lynn, receives bids until July 16 for resurfacing and pointing granite work on Senate Office Bldg.; specifications from Office Mr. Lynn.

Fla., Tallahassee—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids July 27 for heating system in post office and court house.

Ga., Americus—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., remodel and enlarge post office; three stories, metal roof; \$100,000; materials and equipment include cast stone, ele-

vators, terrazzo and tile floors, limestone, marble, terra cotta trib, vaults, vault lights, ventilators; D. F. Davenport, Postmaster. 7-2

Ga., Eatonton—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids in duplicate July 23 for post office, etc.; drawings from office Supvg. Archt.

Ky., Greendale—State Bd. of Charities and Correction erect educational and gymnasium building, Kentucky House of Reform; \$50,000; convict labor.

Ky., Murray—Following estimators on post office, bids open July 20 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C.; Johnson Construction Co., 110 N. Sixth St., Birmingham, Ala.; Forcum-James Lumber Co., Dyersburg, Tenn.; General Construction Co., Box 9037, Huntington, W. Va. 7-2

Ky., Ownesboro—U. S. Engineer Office, P. O. Box 72, Louisville, opens bids July 31 for warehouse at lock and Dam No. 46, Ohio River; receives bids July 15 for installing heating equipment in power house, lock and dam No. 48, Ohio River.

La., New Orleans—Department of Justice, Sanford Bates, Director, Bureau of Prisons, Washington, D. C., has low bid at \$105,900 from Gervais F. Favrot, Balter Bldg., New Orleans, to convert old Mint Bldg. for Federal prison; Diboll & Owen, Ltd., Archts., Bk. Bldg., New Orleans. 6-18

La., New Orleans—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., receives bids July 16 for additions to heating and electric system.

La., New Orleans—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids July 24 for repairs to boilers, U. S. Customs House.

La., New Orleans—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids July 16 for additions to heating system and electric changes in post office and court house. 4-16

Md., Cascade—Maryland National Guard, Capt. Robert F. Barrick, received low bid on electric work from Krunkleon Electric Co., Waynesboro, Pa.; Minter Homes Corp., 340 Third Ave., Huntington, W. Va., low on baths and latrine buildings; bids soon to be asked on 6 kitchens. 6-18

Md., Curtis Bay—U. S. Coast Guard, Washington, D. C., has low bid of \$10,600 from Maryland Metal Building Co., Race and McComas Sts., Baltimore, for gas engine shop and boat basin, Curtis Bay depot.

Md., Edgewood Arsenal—Quartermaster receives bids July 24 for fuel oil burning equipment.

Miss., Columbia—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., considering sites for post office.

Miss., Hattiesburg—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., considering sites for post office.

Md., Jessups—State Bd. of Welfare, Stuart S. Janney, Chmn., plans dining hall; Henry G. Perring, Archt. and Engr., Court Square Bldg., Baltimore.

Mo., Farmington—Following estimators on post office, bids received July 17 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington: W. D. Lovell, Minneapolis, Minn.; Forcum-James Lumber Co., Dyersburg, Tenn.; McCarthy Brothers Construction Co., Roosevelt Bldg., St. Louis; C. D. Richardson, Flat River. 7-2

Mo., Kansas City—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., receives bids July 6 for models for \$4,500,000 post office. 6-18

Mo., Lamar—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., received low bid of \$45,831 from O. L. Allen, 420 E. Commercial St., Springfield, Mo., for post office. 6-25

Mo., Unionville—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., received low bid of \$44,985 from Jas. McHugh Sons, Inc., 840 W. 70th St., Chicago, for post office. 6-28

N. C., Rutherfordton—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., clear site within 60 days for \$75,000 post office; John H. Williams, Postmaster.

S. C., Anderson—Representatives of Post Office Dept., and Dept. of Justice investigating need for post office and Federal court building.

Tenn., Huntington—Following estimators on post office, bids opened July 9 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C.; Charles H. Barnes, 315½ Fifth St., Logansport, Ind.; Algernon Blair, First National Bank Bldg., Montgomery, Ala.; Forcum-James Lumber Co., Dyersburg, Tenn.; W. D. Lowell, Minn.

neapolis, Minn.; Earl E. Garber & Co., 203 W. Fourth St., Bethlehem, Pa.; Samford Brothers, 301 Washington Ave., Montgomery, Ala.; M. & Q. Construction Co., 68 Arcade Bldg., Nashville, Tenn. 6-25

Tex., Austin—State Bd. of Control, Claude Teer, Chmn., selected W. E. Ketchum, Archt., Pope Bldg., for improvements to old Travis County court house; \$33,580. 7-2

Tex., Atlanta—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., received low bid of \$45,662 from Algernon Blair, First Natl. Bank Bldg., Montgomery, Ala., for post office. 6-25

Tex., Camp Hulen, Palacios—Property and Disbursing Officer, Camp Mabry, Austin, has low bid from Murphy & Murphy, Mineral Wells, for photo building and motor repair shop.

Tex., El Paso—Robert E. McKee, 1916 Texas St., El Paso, reported, low bidder at \$305,900 for Federal House of Detention, near El Paso. 7-2

Tex., Fort Worth—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., has low bid at \$1,017,000 from Ralph Slott, Sons Construction Co., 28 N. LaSalle St., Chicago, Ill., for post office; contract in about 1 week.

Tex., Randolph Field—Constructing Quartermaster awarded contract for furnishing 62 gas ranges, \$5976; John A. Williams, 307 Hedges St., low bidder at \$39,535 on window and door screens; Kirkwood and Wharton, 523 N. Flores St., low bidders at \$5560 on domestic hot water heating equipment; San Antonio Machine and Supply Co., 325 N. Center St., all San Antonio, low bidder on pumpink equipment.

Tex., Randolph Field—Constructing Quartermaster, Capt. A. W. Parker, postpone receiving bids until July 15 for irrigation pumping equipment.

Va., Danville—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., selected site, Main and Ridge Sts., for post office. 4-16

Va., Woodstock—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids in duplicate July 24 for post office, etc.; \$55,000; drawings from office Supvg. Archt.

Hospitals, Sanitariums, Etc.

Ala., Birmingham—Jefferson County Bd. of Commrs., reported, about ready for bids on remodeling Hillman Hospital; Turner & Van Arman, 1212 Martin Bldg. 4-16

Ga., Augusta—Veterans Bureau, L. H. Tripp, Ch. of Construction, Washington, D. C., receives bids July 14 for two duplex officers' quarters; following additional estimators: General-Potter and Shackelford, Inc., Allen Bldg., Greenville, S. C.; J. B. Mobley, Broad St., Augusta, Ga.; C. M. Guest & Son, Anderson, S. C.; Sibert & Robinson, Union Savings Bank, Augusta; A. K. Adams & Co., Atlanta; Noyes, Roach & Co., Morris Bldg., Joliet, Ill.; Simons-Mayrant Co., Peoples Bldg., Charleston, S. C.; Smith-Pew Construction Co., 435 Irwin St. N. E., Atlanta; Jewell-Riddle Co., Inc., Sanford, N. C.; James I. Barnes, Springfield, Ohio; E. R. Morgan, receiver, Brown-Harry Co., Inc., 275 E. Main St., Gastonia, N. C.; Norwood-Griffin Co., Bona Aten Bldg., Atlanta; Gallivan Construction Co., Gallivan Bldg., Greenville, S. C.; W. P. Rose Co., Wayne Natl. Bank Bldg., Goldsboro, N. C.; Goode Construction Co., 11 E. Fifth St., Charlotte, N. C.; J. C. Heslep, Carolina Bank Bldg., Columbia, S. C.; Algernon Blair, First National Bank Bldg., Montgomery, Ala.; Hodgson-Jones Construction Co., Montgomery, Ala.; Dawson Engineering Co., Inc., 10 Gillon St., Charleston, S. C.; Monroe & Westcott, Inc., 24 Elm St., North Attleboro, Mass.; heating and plumbing—Waldrup Heating and Plumbing Co., Rock Hill, S. C.; J. A. Redmond Co., 227 N. Broadway, Knoxville, Tenn.; W. H. Bond Co., Inc., 318 S. Harrington St., Raleigh, N. C.; Jeffcoat Plumbing and Heating Co., 624 Broad St., Augusta, Ga.; electric—Marine Electric Co., 104 E. Market St., Louisville, Ky. 7-2

Ga., Augusta—U. S. Veterans' Bureau, L. H. Tripp, Ch. of Construction, Washington, D. C., probably complete plans by July 20 for \$200,000 administration building; 4 stories and basement, 116x275 ft., rein. conc., brick and tile walls, tile and terrazzo; Capt. P. M. Feltham, Archt., U. S. Veterans' Hospital No. 48, Peachtree Rd., Atlanta.

N. C., Oteen—U. S. Veterans Bureau, Arlington Bldg., Washington, D. C., advertises for bids about July 15 for \$90,000 boiler house and \$65,000 laundry; Col. H. C. Dodge, Medical Officer in Charge.

Okla., Supply—State Bd. of Affairs, W. C. Hughes, Chmn., Oklahoma City, has plans in progress for a \$125,000 hospital building and an \$85,000 power plant at the Western

Oklahoma Hospital; Layton, Hicks & Forsthe, Archts., Braniff Bldg., Oklahoma City.

Okla., Vinita—State Bd. of Affairs, W. C. Hughes, Chmn., Oklahoma City, having plans drawn by Layton, Hicks and Forsthe, Braniff Bldg., Oklahoma City, for \$125,000 hospital building.

Tenn., Nashville—Davidson County erect building, Hamilton Rd., for tuberculosis hospital; reported, taking bids; 2 stories; basement, 40x64 ft., cinder block and conc.; Asmus & Clark, 1415 Nashville Trust Bldg.

Tex., San Antonio—Bexar County Comms., Judge W. A. Wurzbach, soon receive bids for \$30,000 nurses' home addition, Robert B. Green Memorial Hospital; 4 stories, steel and brick; fireproof; 30 bedrooms; Herbert S. Green, Archt., Alamo Bank Bldg. 7-2

Tex., Tyler—Smith County defeated \$250,000 hospital bond issue. 5-28

Hotels and Apartments

Fla., Fort Lauderdale—Dr. S. D. Johnson, having plans prepared by W. J. Carpenter, Room 431, 17 E. 42nd St., New York, for 10-story, 50x300 ft., 175-room hotel at Fort Lauderdale Beach; fireproof, steel frame, steam heat; plans ready for figuring about Aug.; all applications to be made at office architect.

Ga., Macon—Lanier Hotel, 523 Mulberry St., W. T. Willie Hooks, selected W. F. Ollphant, Grand Bldg., for \$100,000, 5-story, rein. conc., brick and tile hotel to replace structure recently destroyed by fire; comp. roof, stone trim. 7-2

Tenn., Sevierville—R. M. Murphy plans third-story addition to Central Hotel.

Tex., Brownsville—Wm. D. Van Siclen, Archt., preparing preliminary plans for \$150,000, 6-story hotel.

Miscellaneous

Ark., Newport—Newport Golf Club, Roy H. Hinkley plans clubhouse; Thompson, Sanders & Ginnochio, Archts., Hall Bldg., Little Rock.

Fla., Hialeah—Miami Jockey Club, Joseph H. Widener, Chmn., Land Title Bldg., Philadelphia, Pa., and Palm Beach, and Frank K. Bruen, Mgr.-Dir., 5632 Sheridan Ave., Miami Beach, rejected bids, having plans revised and soon let contract for 24 racing stables, each 48x348 ft.; cost about \$250,000; Smith & Riddle, West Palm Beach, supervising engineers; L. W. Geisler, Archt., 19 Via Parigi, Palm Beach. 6-18

Fla., Palm Beach—Col. M. D. Carmichael, reported, plans \$250,000 improvements at Belvedere Park including construction of mile oval for horse racing and dog racing plant.

Fla., Tampa—Gulf Coast Racing Assn., Inc., George J. Kennedy, Pres., plans building horse racing tract on 160-acre site north of Gandy Blvd. on Inter-Bay peninsula.

Miss., Columbia—Lampton Co. rejected bids for 2-story, 44x55 ft., brick veneer funeral home; having plans revised by Juan G. Landry, Conn. Bldg., Hattiesburg, and take new bids in about 10 days. 6-25

Tex., Beaumont—South Texas State Fair Assn., Ben D. Jackson, Chmn., Bldg. Comm., plans expending \$100,000 for improvements including paving walks and streets, storm sewer drainage system, constructing gate, etc.

Tex., Port Aransas—Club Casa Del Mar, H. C. Pogue, Sec., plans clubhouse on Mustang Island; features of the clubhouse include club lounge, dining room, beach esplanade for dining and dancing, dressing rooms and showers, sun decks and verandas, sleeping rooms and private bungalows, Isaac Walton room for hunters and fishermen, children's playground, beach lounge, etc.

Tex., San Antonio—Sherry-Adams Co., T. A. Adams, Pres., erecting Sherry's Pagoda, McCullough Ave. and Park Hill Drive, first of series of similar units to be opened in various parts of city; Morris, Noonan & Wilson, Archts., Builders Exchange Bldg.

Schools

Ala., Russellville—Bd. of Education, Y. M. Quinn, ready for bids about July 12 for one-story and basement, 16-classroom, auditorium and cafeteria, brick school; comp. roof, stone trim; Warren, Knight & Davis, Archts., Protective Life Bldg., Birmingham. 6-18

Ala., Scottsboro—Jackson County Bd. of Education, J. F. Hodges, Supt., ready for bids about Aug. 1 for \$30,000, one-story, brick school; plans by State Dept. of Education, Montgomery.

Ark., Arkadelphia—School Bd. receives bids July 21 for 3-story, fireproof, rein. conc. and brick, stone trim school; 206x135 ft., 14 classrooms, auditorium to seat 650, study hall, gymnasium and library; Petter & McAninch, Inc., Archts., Pyramid Life Bldg., Little Rock.

Ark., Gainesville—Gainesville Consolidated School Dist., care Mrs. W. L. Skaggs, Greene County Supt. of Education, Paragould, plans high school; plans by State Dept. of Education, C. M. Hirst, Statehouse, Little Rock.

D. C., Washington—District Comr., Roland M. Brennan, Ch. Clk., Engr. Dept., District Bldg., receive bids July 16 for addition to Benjamin Orr School, 22nd and Prout Sts., S. E.; 248,000 cu. ft.; plans at Room 427, District Bldg.

D. C., Washington—District Comr., Roland M. Brennan, Ch. Clk., Engr. Dept., District Bldg., purchased site between Foxhall Road, Volta Place and Q St., N. W., for erection of school.

D. C., Washington—Department of Interior John H. Edwards, Asst. Sec., 6117 Interior Bldg., has low bid at \$24,992 from Matatco Construction Co., 805 Fifth St., N. W., for lawn sprinkler system, grading, etc. at Howard University.

Fla., Tallahassee—State Bd. of Control, P. K. Yonge, Chmn., receives bids July 13 for \$50,000, one- and two-story and basement, 78x137 ft., rein. conc., struc. steel, brick training school for A. & M. College for Negroes; cast stone trim, slate roof; plans by Rudolph Weaver, Board Archt., Peabody Hall, Gainesville.

Ga., Gainesville—Brenau College, Dr. H. J. Pearce, Pres., plans \$80,000, 3-story, brick, stone trim building; comp. roof; James J. Baldwin, Archt., Anderson, S. C.

Ky., Elizabethtown—Bd. of Education has plans by Thos. J. Nolan, Inter-Southern Bldg., Louisville, for \$40,000, 2-story and basement, 8-room high school; comp. roof, wood floors.

La., Amite—Tangipahoa Parish School Dist. votes July 26 on \$110,000 bonds.

La., Houma—Terrebonne Parish School Bd. receives bids Aug. 4 for 2-story, rein. conc., brick, stone trim elementary school; built-up comp. roof, wood and tile floors, steam heat; Wm. T. Nolan, Archt., Canal Bank Bldg., New Orleans. 5-14

La., Jonesboro—Consolidated School Dist. No. 23 of Jackson Parish voted \$150,000 bonds for \$125,000 brick high school at Jonesboro and \$25,000 brick grammar school at Hodge. 6-11

La., Marksville—Avoyelles Parish School Bd. receives bids Aug. 6 for \$40,000, 2-story brick addition to school in Evergreen, \$30,000 alterations and additions to school at Bordelonville, \$15,000, one-story building for Dupont school; Wm. T. Nolan, Archt., Canal Bank Bldg., New Orleans. 6-4

La., Simsboro—Following contractors estimating on brick addition to high school and remodeling classrooms, to cost \$35,000, bids July 17 by Lincoln Parish School Bd., H. L. Campbell, Sec., Ruston; R. L. Roland, 1908 Lee St., Alexandria; A. O. M. Houck, Simsboro; McMichael Construction Co., City Bank Bldg., Shreveport; Fessell Brothers, Ruston; W. H. Blane, L. A. Ellis, Old Central Bk. Bldg.; W. C. Salley, Ouachita Bank Bldg., all Monroe; Tudor & Ratcliff, Commercial Bank Bldg., Alexandria; Edw. F. Neild, Archt., City Bank Bldg., Shreveport. 7-2

Md., Annapolis—Bureau of Yards and Docks, Navy Dept., Washington, D. C., has low bid at \$58,300 from United Marble Co., Inc., Liberty Trust Bldg., Philadelphia, Pa., for promenade tile decks for terraces at Bancroft Hall.

Md., Annapolis—Anne Arundel County School Comr., George Fox, Sec., having plans revised for 2-story frame, 4-room addition to grade school at Germantown; W. H. Emory, Jr., Baltimore Trust Bldg., and Buckler & Fenham, 325 N. Charles St., both Baltimore, Asso. Archts.; also having plans revised for 2-story, brick, 8-room high school at Annapolis; Buckler & Fenham, Archts., 325 N. Charles St., Baltimore. 6-25

Md., Cumberland—Allegany County Bd. of Education, Ferman G. Pugh, Pres., erect brick school at McCoole; R. Holt Hitchins, Archt., Perrin Bldg.; bids in.

Md., Helen—St. Mary's County School Bd., Miss Lettie M. Dent, Supt., Leonardtown, receives bids July 13 for 6-room and auditorium brick high school; plans at office Rossel E. Mitchell, Archt., 7 E. Melrose St., Chevy Chase. 6-11

Miss., Laurel—Myrick Consolidated School Dist. voted \$10,000 bonds for high school and repairs to present structure. 6-25

Oka., Hinton—Hinton School Dist. plans election on \$17,000 bonds.

Tenn., Jonesboro—Washington County plans election on \$300,000 bonds for improvements in rural school system.

Tex., Austin—University of Texas, J. W. Calhoun, Comptroller, having plans prepared by R. L. White, of University Faculty, for union group including student activities building, cafeteria, lecture hall and small theatre; \$800,000; Paul P. Cret, Cons. Archt., 112 S. 16th St., Philadelphia, Pa. 6-25

Tex., Brownsville—Brownsville Ind. School Dist. voted \$80,000 bonds for erecting two elementary schools and repairing existing buildings; J. P. Mather, Sec., School Bd. 6-18

Tex., Kingsville—Kingsville Ind. Dist. School Bd. erect one-story, 63x34 ft., 2-room, struc. clay tile, stucco, brick and rein. conc. addition to grade school; conc. and wood floors, clay tile and built-up roof; Natl. M. Hardy, Archt.-Engr., 709-12 Nixon Bldg., San Antonio; bids in.

Tex., Longview—Gregg County Ind. School Dist. voted \$175,000 bonds for junior high school, two ward schools and improvements to present buildings; H. L. Foster, Supt. of Schools.

Tex., Refugio—Refugio Ind. School Dist. ready for bids for \$100,000, 2-story, brick, struc. clay tile, rein. conc., fireproof school; Dielmann & Levy, Archts., State Natl. Bank Bldg., Corpus Christi. 5-14

Tex., Taylor—Taylor Ind. Dist. School Bd., R. H. Brister, Supt., has plans by Edwin C. Kreisle, 803 Scarbrough Bldg., Austin, for \$22,000, one-story, 118x138 ft., semi-fireproof, conc. and brick school; cement and wood floors, asbestos shingle roof. 7-2

Va., Highland Springs—Henrico County School Bd., Richmond, erect 8-room brick addition to Highland Springs School and 2-room brick addition to Montrose School; bids in.

Va., Richmond—Kappa Sigma Fraternity, University of Richmond, has low bid from Doyle & Russell, Central Natl. Bank Bldg., for brick fraternity house.

W. Va., Marmet—Loudon Dist. Bd. of Education, E. S. Van Buren, Sec., soon let contract for completion of Junior High School; work includes placing floor in auditorium, placing all window frames and windows and floor of corridors; cost about \$10,000. 6-19-30

Stores

Ark., Little Rock—Dave D. Terry, Boyle Bldg., soon let contract for \$50,000, 2-story commercial building, Fourth and Louisiana Sts.; 5 shops on first floors; second floor to be occupied by Peerless Engraving Co.; facade of stone trimmed with aluminum and vitrolite, fireproof, 100x80 ft.; Petter & McAninch, Inc., Archts., Pyramid Life Bldg.

Fla., Hollywood—Michael Chrest having plans prepared by Bayard C. Lukens for 2-story business building at Hollywood Beach.

Fla., Jacksonville—Homer A. McCart, 134 Home St., plans erecting business block, Kings Ave. and Catherine St.; plans provide for Spanish type building suitable for filling station and general garage purposes, room for storage space, stores and office and show room.

La., Plaquemine—F. J. D'Albor Furniture Co. has low bid at \$24,600 from E. W. Ulrich Glass Co., Inc., 827 Dryades St., New Orleans, for one-story and mezzanine, 90x120 ft., conc. and brick store, Canal Ave. and Court St.; Wm. T. Nolan, Archt., Canal Bank Bldg., New Orleans. 6-25

BUILDING CONTRACTS AWARDED

Bank and Office

D. C., Washington—Board of Temperance, Prohibition and Public Morals, Methodist Episcopal Church, 100 Maryland Ave., N. E., let contract to Chas. H. Tompkins Co., Francis M. Tompkins, 1608 K St., N. W., for \$330,000 "Congressional Apartments," 114 Maryland Ave., N. E. See Hotels and Apartments, Building Contracts Awarded: also Want Section, Building Material and Equipment. 6-12-30

City and County

Md., Cambridge—Dorchester County Comr., remodel and enlarge court house building; \$75,000; William F. Stone, Archt., 2612 N. Charles St., Baltimore, started working drawings, to be complete in about a month; work includes extensive improvement of interior of existing building, and 2-story, 38x64 ft. addition; brick, rein. conc. vaults; Henry Adams, Mech. Engr., Calvert Bldg., Baltimore. 6-18

Oka., Tulsa—G. J. Bowie, Builder, Daniels Bldg., contractor for police substation

Md., Baltimore—Franklin Realty Co., 205 W. Franklin St., having plans prepared by Samuel Smulian, 3721 Belle Ave., for one-story, 25x65 ft., brick store, 5419 Harford Road; built-up roof.

Mo., University City, St. Louis—Louis E. Seagall, 6701 Clayton Road, plans 2-story and basement, brick store and apartment building, Pershing and Purdue Aves.

Tex., Beaumont—Liberty St. Property Co., F. W. & D. E. Steinman, Archts., San Jacinto Life Bldg., and others erect \$25,000 commercial building on Orleans St.; 5500 sq. ft. floor space on ground floor and 2500 sq. ft. on second; major portion of second floor for offices of F. W. & D. E. Steinman.

Tex., Dallas—Neiman-Marcus Co., Main and Ervy Sts., Herbert Marcus, Pres., let contract at \$55,000 to Smith & Whitney, 2017 Cedar Springs, for air conditioning system in store; also plans other interior improvements.

Tex., Houston—D. P. Tashnek, 225 N. Hutchinson St., has permit for \$12,200 store and apartment, 3516 Canal St.

Tex., Houston—George P. Montgomery, Jr., erect \$15,000 store, 4122 Almeda.

Tex., San Antonio—N. S. Dickinson, Woodlawn Place, has low bid at \$8268 from K. G. Granberg, 340 Normandy St., for one-story, 70x60 ft., rein. conc., fireproof store, Fredericksburg Road and Donaldson Ave.; terrazzo, tile, masonry, stucco; Adams & Adams, Archts., 1011 Western Natl. Bldg. 7-2

Va.-Tenn., Bristol—Eugene Lynch rebuild structure, State and Ninth Sts., recently damaged by fire; \$10,000.

Theatres

Ark., Arkadelphia—Claude Phillips having plans prepared by Irven D. McDaniel, 403 Citizens Bank Bldg., Hot Springs, for \$10,000, 1-story, 35x95 ft., brick and stone theater; built-up roof, tile floors, limestone, marble, metal doors, sprinklers, steel sash and trim, hollow and interior tile, ventilators, brass and bronze work; Cecil Culp, Lessee.

Tex., Del Rio—Hughes-Franklin Theatres, Inc., 7081 Hollywood Blvd., Hollywood, Calif., ready for bids about Sept. 15 for \$100,000, 4-story, brick, struc. clay tile struc. steel and rein. conc. theatre; Spanish type; W. Scott Dunne, Archt., Melba Bldg., Dallas. 7-2

Tex., Longview—East Texas Theatres, Inc., Sol. E. Gordon, Pres., Perlstein Bldg., Beaumont, ready for bids about July 28 for \$35,000, 2-story, 55x150 ft., brick, struc. steel and rein. conc. building for theater, stores and office; tile, linoleum and conc. floors, built-up roof, east stone, limestone, sprinklers, steel sash and trim, hollow tile, ventilators, wire glass; Jerome A. Cararas, Archt., Room 12, First Natl. Bank Bldg., Henderson; E. M. Freeman, Engr., City Bank Bldg., Shreveport, La. 6-11

Warehouses

Ga., Valdosta—Stump Bros. erect 50x100 ft. building, first unit of warehouse.

Tex., Dallas—W. M. Gunn, 3904 Euclid St., has permit for \$15,000 brick addition to warehouse, 901 S. Preston St.

Tex., San Antonio—Browning-Ferris Machinery Co., 205 Exposition Ave., Dallas, purchased 18,700 sq. ft. site, 1600 block S. Flores St., and plans warehouse.

jail, advises project involved in legal litigation indefinitely.

Tex., Houston—City Council let contract at \$10,632 to Packard & Co. for shelter house, John T. Mason Park; Spanish type, 45x72 ft.

Dwellings

D. C., Washington—Cooley Brothers, Tower Bldg., have permit to erect six 2-story brick dwellings, 5611-21 Second Pl., N. W.; \$35,000.

D. C., Washington—A. C. Holmes has permit for \$10,000 brick and tile dwelling, 3616 Quesada St., N. W.; 2 stories.

D. C., Washington—Azel Merrill Sheppard, Bond Bldg., has permit for \$10,000 dwelling, 3500 Quesada St., N. W.; 2 stories, brick.

D. C., Washington—Robert E. Kline, Jr., Union Trust Bldg., has permit to erect seven 2-story brick dwellings, 326-338 17th Pl., N. E.; \$35,000.

Fla., Hobe Sound—Joseph Verner Reed, 122 E. 42nd St., New York, erect \$100,000 residence, Olympia Beach; Spanish type; white stucco exterior, ornate cast stone trim, Cuban

tile roof; patio enclosed on 3 sides; 2 stories, tower room; kitchen quarters, 3 maids' rooms, nursery wing; 2-car garage; Treanor & Fatio, Archts., Phipps Plaza, Palm Beach; Jack Yates, Contr., Hobe Sound.

Fla., Miami Beach—Mr. Gooch, care Henry J. Moloney, Archt., 802 Professional Bldg., Miami, having plans drawn for first 2 of 5 dwellings; day labor.

Fla., Palm Beach—Charles H. Chadwick, 2516 S. Wabash Ave., Chicago, and Palm Beach, applied for permit to erect \$55,000 residence, via Bellarai; stucco exterior, tile roof; patio; kitchen, one maid's room, dressing rooms, dining room on first floor; laundry, one maid's room in basement; 4 master bedrooms, sewing room, 3 maid's rooms, second floor; 2-car garage; Treanor & Fatio, Archts., Phipps Plaza; Charles J. Trevall, Contr., Citizens Bank Bldg.

Ga., Atlanta—Walker F. Clement, 1050 Spring St. N. W., let contract to Joseph S. Shaw, 615 Georgia Savings Bank Bldg., for 1-story, frame residence, 1206 Piedmont Ave. N. E.; comp. roof, hardwood and tile floors.

Ga., Atlanta—W. A. Ozmer, 1619 Johnson Rd. N. E., erect 1-story brick veneer residence, 1684 Noble Drive N. E.; comp. roof, hardwood and tile floors; owner builds.

Ga., Atlanta—Dave Marcus, care of G. C. Lacy, 1049 Blue Ridge Ave., erect 1-story frame residence, 215-17 14th St. N. E.; comp. roof; owner builds.

Ga., Athens—LeRoy Michael erect residence; 2 stories and basement, conc. foundations, tile and stucco walls, brick, comp. shingle roof, hardwood and tile floors, steam heat; Fred J. Orr, Archt., Norris Bldg., Atlanta; J. K. Davis, Contr., Southern Mutual Bldg., Athens.

Ga., Atlanta—H. B. Schumpert, 240½ Ivy St., N. E., erect residence, 1302 Beecher St., S. W.; 7 rooms, 2 baths, wood floors, comp. roof; owner builds.

Md., Baltimore—John L. Tregellas, Inc., 10 E. Fayette St., completed plans for 5 frame dwellings, 6012-20 Burgess Ave.; 1½ stories, 24x30 ft.; Bernard Evander, Archt., 20 E. Lexington St.; total of \$15,000; owner builds.

Md., Baltimore—Harry F. Shrew, Jr., 3916 Woodhaven Ave., erect 3 brick dwellings, 3638-42 Old York Rd.; 2 stories, 18x32 ft.; owner builds.

Md., Baltimore—John C. Vollbracht, 1326 S. Charles St., erect residence, Hunting Ridge; brick, 2 stories, 42x33 ft.; F. Edward Tormey, Jr., Archt., 2 E. Lexington St.; W. H. Zeemer Realty Co., Bldr., 1113 W. Lanvale St.

Md., Baltimore—Joseph O. Blair, 3613 Grantley Rd., erect residence and garage, 3604 Sequoia Ave.; 33x44, 2 stories, brick; owner, archt. and bldr.

Mo., St. Louis—J. Kramer, 4156 Loughborough St., has permit for three 1-story dwellings, 5329-33-37 Mardell; \$13,500; 20x43 ft., comp. roof, hot air heat.

S. C., Aiken—Mrs. Lloyd Richards, Rye, N. Y., let contract on cost plus basis to Wheatley & Mobley, Reynolds St., Augusta, Ga., for \$30,000 brick veneer residence; 2 stories, 45x101 ft., linoleum floors, slate roof, conc. footing, brick foundation, elect. refrigerators, plaster board, asphalt shingle and slate roof, steel sash and trim; E. Lynn Drummond, Archt., 333 Masonic Bldg., Auggusta.

Tenn., Memphis—H. B. Potts, 66 S. Front St., has low bid from Joe Smith, 63 S. Third St., for residence; 2 stories, 38x45 ft.

Tenn., Memphis—Dr. W. R. Blue, 1460 Madison St., let contract for residence, Red Acres, to R. N. Morris, 2204 Cowden St.; \$18,000; 2 stories, 44x49 ft., brick veneer; George Mahan, Jr., City Savings Bank Bldg., and Everett Woods, 1099 Peabody St., Archts.

Tex., Dallas—Ballard Burgher, 4001 Turtle Creek, erecting English type residence, 4200 McFarlin Blvd., Stratford Manor; \$20,000; 10 rooms; Carsey & Linskie, Archts., 2012 N. Harwood St.

Tex., Houston—L. L. D. Tuttle has permit for 8-room, brick veneer dwelling, 2219 Inwood; \$12,000.

Tex., Kerrville—Presbyterian Congregation, Dr. J. J. Delaney, member, erect manse; contract let.

Tex., Rockport—Mrs. Theo Bauer, Stephenville, erecting six camp cottages.

Government and State

D. C., Washington—Alliance Construction Co., 1457 Broadway, New York, has contract for painting plaster, Internal Revenue Bldg.

D. C., Washington—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., let contract at \$60,000 to Raymond Concrete Pile Co.,

140 Cedar St., New York, for clearing site, excavating and foundations for Public Health Service building.

Fla., Key West—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., let contract at \$338,844 to Algernon Blair, First National Bank Bldg., Montgomery, Ala., for post office, customs house and court house building; 2 stories and basement, 186x131 ft., conc. floors and foundation, promenade tile roof.

Md., Baltimore—Thos. Hicks & Sons, 106 W. Madison St., have contract for building, 3601 Elm Ave., for Union Trust Co.; to be leased to U. S. Government for post office; Geo. Wessel, Archt., 601 W. 40th St.; 1 story, brick.

Md., Solomons—Baltimore Heating Co., 801 Hampson St., has plumbing contract for Chesapeake Biological Laboratory; Whiteley Electric Co., 13 N. Carey St., elec. contr.; James J. Vesely & Co., Gen. Contr., 522 Park Ave.

N. C., Oak Island—U. S. Coast Guard let contract at \$12,620 to J. N. Bryan & Son, Rogers Bl., Raleigh, for erection of dwelling.

S. C., Columbia—South Carolina National Guard, Brig. Gen. James C. Dozier, Adjutant, let contract to J. J. McGrady, for bath and latrine buildings, Camp Jackson.

Tex., Houston—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., let contract at \$514,000 to Robert E. McKee, 1918 Texas St., El Paso, for post office and court house extension and remodeling.

Va., Lorton—Oliver Machine Works has contract at \$8346 for pattern and woodworking shop, District of Columbia reformatory; John R. Wald Co., Huntington, Pa., has contract at \$19,925 for hosiery and underwear plant.

Hospitals, Sanatoriums, Etc.

D. C., Washington—Concrete Steel Co., Union Trust Bldg., Pittsburgh, Pa., reported, has contract for 140 tons steel for Walter Reed Hospital building.

N. C., Boone—Watauga Hospital, Inc., clearing site for \$60,000 general hospital for Watauga County; day labor; R. F. Coffey, Supt. in charge; fireproof, brick and conc. metal pan or bar joist floor constr. 3 stories, 144x42.6 ft. cement and tile floors, conc. foundation, built-up flat roof, elect. refrigerators, elevators, incinerator, limestone, metal doors, steel sash and trim, hollow and gypsum tile, terra cotta trim, ventilators; furnishings, equipment, etc., \$20,000; Frank B. Simpson, Archt., 110 E. Lane St., Raleigh.

Tex., Abilene—State Bd. of Control, Austin, let contract at \$34,200 to Dunlap & Cox, Abilene, for men's dormitory. Abilene State Hospital; brick, struct. clay tile, struct. steel, stone and rein. conc. 2 stories, 150x42 ft., metal bath and plaster, tar and gravel roof; David S. Castle Co., Archt., Alexander Bldg., Abilene.

Tex., Longview—Dr. V. Hurst has permit to erect \$25,000 eye, ear, nose and throat hospital, Fredonia St.; conc. and steel, brick walls. 3 stories; J. O. Everett Co., Contr., 1713½ Live Oak St., Dallas.

W. Va., Huntington—State Bd. of Control, Charleston, let contract to Augustus M. Van Hoose, 334 Fifth Ave., for storage, bakery and preparation house, Huntington State Hospital; 36x45 ft., conc. basement, face brick walls, tile roof; R. A. Gillig, Archt., Fairmount.

Hotels and Apartments

D. C., Washington—Max Gorin, Bldr., Tower Bldg., erect 5-story, stone and conc. apartment, Connecticut Ave. and Sedgwick St.; M. Mesrobian, Archt., 5115 Forty-first St., N. W.

D. C., Washington—Board of Temperance, Prohibition and Public Morals, Methodist Episcopal Church, 100 Maryland Ave., N. E., let contract to Chas. H. Tompkins Co., Francis M. Tompkins, 1608 K St. N. W., for \$30,000 "Congressional Apartments," 114 Maryland Ave., N. E.; 114x120 ft., five stories and basement, fireproof, rein. conc., hollow tile, brick, limestone front; wood floors, conc. floors in corridors, slag roof; foundation of conc. pads, footings, pedestals and walls; site cleared; E. L. Bullock, Archt.; Leo Raywid, Engr., both 1608 K St. N. W. See Want Section—Building Material and Equipment.

Mo., St. Louis—Dr. J. C. Bram, 279 Valley Drive, let contract for remodeling old Baptist Hospital, 2945 Franklin Ave., for 30-unit apartment; refrigeration, gas stoves, sinks and accommodation cabinets; George R. Bartling, Inc., Archts., Paul Brown Bldg.

N. C., Charlotte—Home Real Estate and Guaranty Co., 219 N. Tryon St., started work on foundation for \$35,000, brick, 6-apartment

building on E. Morehead St.; John Crosland, of Central Lumber Co., directing plans.

Tex., Austin—J. B. Perry, Sr., let contract to Brydson Brothers for 2-story, 30x32 ft., stucco apartment; comp. and tile roofs, tile and oak floors; Page Brothers, Archts., Littlefield Bldg.

Tex., Victoria—James W. Ragsdale soon start work on 2-story, brick, 45x55 ft., brick, tile and stone trim building; to be occupied in part by Manhattan Cafe; Ernest Scrivener, Contr., 640 Patterson St., San Antonio.

Miscellaneous

D. C., Washington—District Commsrs., Roland M. Brennan, Ch. Clk., Engr. Dept., District Bldg., let contract at \$12,800 to Charles S. Bennett, Inc., 47th St. and Springdale Ave., Philadelphia, Pa., for cow barn and horse stable at Industrial Home, Blue Plains; 1½ story, conc. and hollow tile, asphalt shingle roofs, hollow tile, ventilators; A. L. Harris, Archt., District Bldg.

Miss., Laurel—A. H. Freeman let contract to W. D. Bradley for 2-story, 42x65 ft. funeral home, Magnolia and Seventh Sts.; chapel to seat 250 people.

Va., Roanoke—Diocese of Richmond, Rt. Rev. Andrew J. Brennan, Bishop, 800 Cathedral Place, Richmond, erect \$50,000 boys' orphanage for St. Andrews' Catholic Church; J. F. Barbour & Sons, Contr., Colonial-American Natl. Bank Bldg., Roanoke; A. Byron Williams, Archt., Citizens & Marine Bank Bldg., Newport News.

Schools

Ala., Oneonta—Blount County Bd. of Education, J. W. Ellis, Supt., let contract at \$23,985 to P. S. Duckworth, Cullman, for one- and two-story 165x115 ft., brick school; hardwood and tile floors, limestone, asbestos shingle roof; C. H. McCauley, Archt., 709 Jackson Bldg., Birmingham.

D. C., Washington—District Commsrs., Roland M. Brennan, Ch. Clk., Engr. Dept., District Bldg., let contract at \$87,490 to Graham Construction Co., Washington Bldg., for 8-room addition to Bernard T. Janney School; A. L. Harris, Municipal Archt.

D. C., Washington—District Commsrs., Roland M. Brennan, Ch. Clk., Engr. Dept., District Bldg., let contract at \$71,050 to W. P. Rose Co., Wayne Natl. Bank Bldg., Goldsboro, N. C., for 8-room addition and alterations to Woodridge School, Carlton St. and Central Ave.

Fla., Hollywood—Riverside Military Academy, Sandy Beaver, Pres., Gainesville, Ga., remodel Hollywood Hotel for dormitory; work to be started soon, in charge of Capt. A. T. Beaver, Gainesville; Fred A. Eskridge, Archt., First National Bank.

Ga., Atlanta—Atlanta University let contract to Barge-Thompson Co., 136 Ellis St., N. E., for improvements to building, 767 Fair St.; brick, comp. roof.

Ky., Henderson—Henderson County Bd. of Education, N. O. Kimble, Sec., let contract at \$28,577 to H. E. Mitchell, Harrisburg, Ill., for 2-story and basement, brick grade and high school; H. E. Boyle & Co., Archts., Furniture Bldg., Evansville, Ind.

Ky., Mayfield—Graves County School Bd. let contract to Walter Carter for Pilot Oak School; to Tom Richardson for addition to Hardeman School and to Ed Sheridan for Clear Springs addition.

Ky., Owensboro—Daviess County Bd. of Education, J. W. Snyder, Supt., let contract at \$27,846 to J. D. Church Construction Co. for high school annex.

La., New Orleans—Louisiana Congregation of Holy Cross has permit for \$27,000, 115x61 ft. assembling room over school at Canal and Rendon Sts.; asbestos roof; Lionel Favret, Contr., Louisiana Bldg.; Emile Weil, Archt., Whitney Annex.

La., New Orleans—St. Mary of the Angels Roman Catholic Church let contract to W. Horace Williams Co., Southern Bldg., for repairs to parochial school, 2301 Gallier St.; \$14,000, asbestos roof; E. M. Reynes, Archt.

Md., Baltimore—Bd. of Awards, City Hall, let contract at \$20,099 to Potts & Callahan, Knickerbocker Bldg., for improving school area at Brehm's Lane School.

Md., Frederick—Maryland State School for Deaf, Ignatius Bjaloe, let contract to Lloyd E. Culler for general improvements including fireproof stairways, prob. additional fireproofing of portions of present buildings; James S. Nussear, Jr., Archt., 9 E. Pleasant St., Baltimore.

Miss., Okolona—Okolona Industrial School, Robert Stovall, Chmn., Bldg. Comm., let contract at \$17,000 to Nettleton Lumber Co., Nettleton, for 2-story, 50x70 ft., conc. and brick science building for girls; built-up comp. roof, wood floors; Edwin S. Phillips, Archt., Fidelity Bank Bldg., Memphis, Tenn.

Mo., Alton—Bd. of Education, C. S. Gohn, Sec., let contract to Greenwell Construction Co., Joplin, for \$25,000, one- and two-story, 130x82 ft., semi-fireproof consolidated high school and grade school; Heckenlively & Mark, Archts., 504 Landers Bldg., Springfield.

Mo., Clever—Bd. of Education, Consolidated Dist. No. 5, C. L. Brown, Sec., let contract at \$39,390 to John M. Johnson, Rogersville, for 2-story, 211x90 ft., brick and rein. conc. stone trim school; Dan R. Sandford, Archt., 112 E. Rose St., Pittsburg, Kans. 5-28

Mo., Eldon—Bd. of Education, Henry Rae, Clk., let contract at \$34,283 to Harry Chalmers for 2-story and basement, 77x115 ft., brick, stone trim junior high school and grade school; T. W. Bast, Archt., Kahn Bldg., Sedalia. 6-25

Mo., St. Louis—Wm. A. Bopp & Co., first unit of Community School on 16-acre Contr., 200 N. Taylor St., started work on site on Clayton car line near McKnight Road in Ladue Village; first unit to include 4 classrooms, accommodate 120 pupils; completed group will have capacity of 350 pupils; Study & Farrar, Archts., Arcade Bldg. 7-2

Mo., St. Louis—Washington University Corp., Chas. Nagel, Pres., Bd. of Directors, let contract to James Black Masonry & Co., 801 Louderman Bldg., for \$300,000, 3-story, 60x208 ft., granite and brick Architectural School, Skinker and Forsythe Blvds.; comp. slate and gypsum roof, cut stone, terra cotta metal casements, marble, tile and terrazzo work, struc., copper sheet metal work; Jamieon & Spearl, Archts., 1116 Arcade Bldg. 4-9

N. C., Taylorsville—Alexander County School Bd. let contract to H. C. Cline, Hickory, for \$30,000, one-story and basement, brick veneer Wittenburg School; Q. E. Herman, Archt., Hickory. 6-11

Okla., Fairland—Bd. of Education let contract to W. E. Corlett, Vinita, for \$20,000, 2-story and basement, 78x101 ft., brick school; A. J. Love & Co., Archts., Atco Bldg., Tulsa. 6-11

Okl., Luther—Bd. of Education let contract to H. W. Underhill Construction Co., Braniff Bldg., Oklahoma City, for \$60,000, one-story, rein. conc. and brick school; Walter Vahberg, Archt., Braniff Bldg., Oklahoma City. 6-11

Okl., Stafford—Bd. of Education let contract to R. M. Everett, Tecumseh, for \$30,000, one-story, brick school; The Butler Co., Archt., Insurance Bldg., Oklahoma City. 6-25

S. C., Charleston—Bd. of Education let contract at \$14,750 to Gallivan Construction Co., Greenville, for 3-story addition to brick high school; comp. roof. 7-2

S. C., Rock Hill—Winthrop College, Dr. Jas. P. Kinard, Pres., let contract to C. A. Morrison & Son, Shelby, N. C., for \$35,000, 2-story and basement, brick and tile addition to dining hall; Edwards & Sayward, Archts., 101 Marietta Bldg., Atlanta, Ga. 6-25

Tenn., Bluff City—Bd. of Education let contract at \$28,000 to Pyle Brothers, Kingsport, for school and gymnasium. 5-28

Tex., Rio Grande City—Rio Grande City Ind. School Dist., Oscar T. Vale, Sec., let contract to Parker & Thompson, Robstown, for one-story, 213x356 ft., brick, struc. tile and conc. high school; R. Newell Waters, Archt., Weslaco; W. E. Simpson Co., Engr., 942 Milam Bldg., San Antonio. 7-2

Va., Chesterfield—Chesterfield County School Bd. erect school at Grange Hall; J. H. Bennett, Contr., 3214 North Ave., Richmond. 6-11

Va., Highland Springs—Henrico County School Bd., Richmond, erect school for Gravel Hill; Otis Dillon, Contr. 5-28

Va., New Market—School Bd. let contract to E. R. Bowman & Son for New Market High School. 5-28

Stores

Ala., Mobile—R. E. Sundberg Construction Co., 269 N. Royal St., has contract for Brooks Store, Dauphin and Claiborne Sts.; Hutchinson, Holmes & Hutchinson, Archts., First Natl. Bank Bldg.

Ga., Atlanta—John Candler, Candler Bldg., let contract to G. H. Butler, Glenn Bldg., for 8 store units in addition to 4 units just completed at Peachtree St. and Rumson Road; one story and basement, brick, conc. roof slab, tar and gravel roof, struc. steel beams. 5-28

Tenn., Chattanooga—Tennessee Furniture Corp., W. First St., let contract to J. M. Allen & Co., Chamberlain Bldg., for \$17,000, one-story brick building on Central Ave.; Sears & Shepherd, Archts., James Bldg.

Tex., Dallas—M. S. White let contract to Cowdin Brothers, 1813 Main St., for \$15,000 store, Second Ave. and Dallas St.; F. J. Woerner & Co., Archts., Central Bank Bldg.

Tex., Dallas—A. J. Urbish, 4315 Versailles St., remodel business houses on Oak Lawn Ave. at Dickason Ave.; \$25,000; 7 storerooms with plate show windows, terrazzo, wood and conc. floors; F. J. Woerner & Co., Archts., Central Bank Bldg.

Va., Hampton—J. R. Willis, Suffolk, has contract at \$18,100 for store for Woodward Drug Stores, Inc.; A. D. Breeden, Archt., Natl. Bank of Suffolk Bldg., Suffolk. 5-28

W. Va., Charleston—Pittsburgh Bridge & Iron Works, Fulton Bldg., Pittsburgh, Pa., have contract for 300 tons fab. struc. steel for \$100,000, 3-story, 217x105 ft., brick warehouse under construction for Hubbard Grocery Co., 1224 Smith St.; H. B. Agsten & Sons, Contr., 1417 Washington St.; Warne, Tucker, Silling & Hutchinson, Archts., Masonic Temple. 5-28

Warehouses

Ala., Selma—M. Hohenburg & Co. let contract at \$12,500 to Hugger Brothers, 205 Pavallo St., Montgomery, for second-story addition to building for L. P. and Charles Burns; skylights. 5-28

N. C., Greenville—Smith & Sugg let contract at \$46,588 to D. J. Rose & Son, Rocky Mount, for brick warehouse; tar and gravel roof; Benton & Benton, Archts., Fidelity Bldg., Wilson. 5-28

WANT SECTION

THE CLASSIFICATIONS IN THIS SECTION ARE:

Machinery and Supplies

Under this heading are reported requests for data, prices and literature and information on machinery, supplies and miscellaneous materials of a wide variety.

Items in this department are published without charge and these columns are open for the publication of wants of all kinds relating to construction work, machinery, materials and supplies.

Machinery and Supplies

Brick Making Machinery.—Columbia Brick Co., Box 367, Roanoke, Va.—Wants prices and data from manufacturers of brick making machinery.

Corn Cutting Machine.—Sweetheart Elevator, Monette, Mo.—Wants prices and data on corn cutting machine, steel construction.

Excelsior Making Machinery.—Moore-Goodrich Co., P. O. Box 342, St. Petersburg, Va.—Wants prices and data from manufacturers of machinery making excelsior from pulp wood.

Sheet Piling.—Hackley Morrison, Mutual Bldg., Richmond, Va.—Wants prices and data on 600 sq. yd. 20.8 lb. Lackawanna sheet piling in 11 ft. and 12 ft. lengths.

Locomotive.—R. E. Boggs (Mch. Dealer), Comer Bldg., Birmingham, Ala.—Wants complete description, condition, location and price on 10 to 15-ton saddle tank, 36-in. gauge, steam locomotive, for use in Alabama.

Ventilating Fan.—J. S. & D. G. Allen, Newport, Tenn.—Want prices and data on used belt drive ventilating fan, for use with 2½ or 5-h. p. electric motor.

Welding Machine.—C. H. Russell & Son, Inc., Clarksville, Va.—Wants prices and data on Butt welding machine, suitable for welding bands, ½ to ¾ in. and 2 in. wide, used.

Hackley Morrison (Mch. Dealer), Mutual Bldg., Richmond, Va.—Wants prices and data on following:

- (1) Jaw Crusher—small, Champion
- (2) Motor (Slip Ring)—1000 h. p., 475 r. p. m., 2200 volt, 3 phase, 60 cycle, for constant speed operation
- (3) Ribbers—several, 3½, 120x120, with selvege welt, for 240 needle machines or Wildman ribber 3¾, 120x129, also with selvege welt and for 240 needle machines.

Building Materials and Equipment

This division comprises all classes and kinds of materials and equipment used in building and construction projects of every kind.

Bids Asked
Includes bids asked by U. S. Government, States, districts, municipalities, firms and individuals for machinery, materials, supplies and construction work.

Chas. H. Tompkins Co., Francis M. Tompkins, 1608 K St., N. W., Washington, D. C., contractor for \$330,000 apartment house for Methodist Board of Temperance, Prohibition and Public Morals, Washington, wants prices on following:

Electric Refrigerators
Elevators
Floors—hardwood, linoleum, terrazzo, tile

Limestone
Marble

Doors—kalamein, tinclad

Roof—built-up
Cement

Brick Work
Reinforcing Steel

Plumbing
Heating

Electrical and Radio Work
Sheet Metal

Plastering
Painting

Ornamental Iron and Bronze Work
Steel Sash and Trim

Tile—hollow, gypsum, interior

Dallas C. Kirby, 421 Nissen Bldg., Winston-Salem, N. C., wants prices on following for club house, to be erected by North State Post No. 1134, Veterans of Foreign Wars:

Dumb Waiter
Electric Refrigerator
Flooring—hardwood and tile
Roofing—asphalt shingle
Brass and Bronze.

Bids Asked

Ambulance.—Comms., District of Columbia, Washington, D. C.—Bids July 21 for motor ambulance and equipment, 24 h. p.

Bench Grinders.—See Miscellaneous Machinery and Tools.

Bolt Thread'ng Machine.—See Miscellaneous Machinery and Tools.

Pipe (Cast Iron).—W. M. Smith & Co. (Mch. Dealer), Box 1709, Birmingham, Ala.—Wants prices and data on 3000 ft. 8-in. c. i. pipe, either bell and spigot or universal.

Stove Parts (Natural Gas).—W. E. Edgar, P. O. Box 137, Mobile, Ala.—Wants catalogs and prices on replacement burners and other parts for stoves using natural gas.

Miscellaneous

The John W. Cowper Co., 843-851 National Press Bldg., Washington, D. C. (note new address), estimating on Public Health Service Building, Washington, D. C., general contract bids Aug. 3, and wants sub-bids.

Building Material and Equipment

Boring, Drilling and Milling Machine.—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids July 21 for boring, drilling and milling machine, motor driven.

Bridge.—Atlanta, Ga. See Construction News—Bridges, Culverts and Viaducts.

Bridge.—Chesapeake City, Md. See Construction News—Bridges, Culverts and Viaducts.

Bridges.—State of Kentucky—Bids for 2 bridge projects. See Construction News—Roads, Streets and Paving.

Chassis.—Comms., District of Columbia, Washington, D. C.—Bids July 17 for 6 truck chassis equipped with cab and hoist, 3000 lb. pay load capacity, for city refuse repair shop.

Condenser, Pump, Etc.—Ch. Bureau of Yards and Docks, Washington, D. C.—Bids July 15 for installing mechanical and electrical equipment furnished by government and denser, air ejector, motor driven condensate for furnishing and installing surface condenser, 2 turbine driven boiler feed pumps, a. c. motors for existing air compressor and drainage pump, 2 motor driven circulating pumps, concrete pump house, salt water intake lines supported on timber bents, equipment supports, operating platforms, stairs, pipe railings, wiring and electrical apparatus and complete piping systems and accessories for equipment at naval air station, Pensacola, Fla.

Crank Shaper.—See Miscellaneous Machinery and Tools.

Dikes and Revetment.—U. S. Engr. Office, 707 Postal Telegraph Bldg., Kansas City, Mo.—Bids July 16 for constructing 3692 lin. ft. standard pile clamp dikes and about 4950 lin. ft. standard revetment near Miami, Mo. See Construction News—Miscellaneous Construction.

Distribution Reservoir.—See Water Pumping Station.

Drainage System.—See Sewer, Water and Drainage System.

Drill Press.—See Miscellaneous Machinery and Tools.

Elevator.—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C.—Bids July 28 for passenger elevator at post office and court house, Muskogee, Okla.

Elevator.—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C.—Bids July 28 for passenger elevator, Corpus Christi, Tex.

Engine Lathe.—See Miscellaneous Machinery and Tools.

Furnace.—Chemical Warfare Service, Edgewood Arsenal, Md.—Bids July 14 for box type electric furnace and electric air draw oven.

Gate Chains.—U. S. Engr. Office, Huntington, W. Va.—Bids July 13 for chains for gate winches, Lock 20, Ohio River.

Heating, Electric Work.—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C.—Bids July 16 for additions to heating and electric system, New Orleans post office.

Heating, Electric Work.—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C.—Bids July 16 for additions to heating system and electric changes in post office.

Heating System.—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C.—Bids July 27 for heating system in post office and court house, Tallahassee, Fla.

Intake and Pump Station.—See Water Pumping Station.

Levee.—U. S. Engr. Office, Second New Orleans Dist., foot of Prytania St., New Orleans, La.—Bids July 31 for 650,000 cu. yd. earthwork under straight contract. See Construction News—Miscellaneous Construction.

Levee.—U. S. Engr. Office, P. O. Box 667, Vicksburg, Miss.—Bids July 16 for 32,000 cu. yd. earthwork, east bank Mississippi River, Mississippi.

Metal Saw.—See Miscellaneous Machinery and Tools.

Miscellaneous.—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids July 14 for furnishing nickel steel bar, automatic screw machines, magnesite bricks to Navy Yard, Washington.

Miscellaneous.—Panama Canal, Office of Gen. Pur. Officer, Washington, D. C.—Bids July 13 for following, Sch. 2668:

Baggage truck, rolling-door chain, struc. steel angles, steel bars, chrome vanadium steel, weatherproof wire, extra-flexible insulated wire, receptacles, fire bricks, sprinkling cans, lanterns, tallow pots, awning pulleys, wood screws, copper tacks, galv. cut tacks, etc.

Miscellaneous.—Panama Canal, Office of Gen. Pur. Officer, Washington, D. C.—Bids July 23 for following, Sch. 2670:

Steel, steel billets, pig iron, pig lead, ferromanganese, ferrosilicon, pipe, switch tongues, steel springs, garbage cans and covers, metal roofing, prepared roofing, kerosene, oils, bituminous solution, pitch, coal, tar, sulphuric acid, lye, etc.

Miscellaneous Machinery and Tools.—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids July 14 for following: Motor driven, rotary metal saw; motor driven, four roll cabinet, single cylinder surfacing machine; motor driven, toolmakers' precision lathe; motor driven precision lathe, bids July 21 for following: Pneumatic, stationary riveting machine; motor driven, double head bolt threading machine; motor driven, full universal turret lathe; motor driven, crank shaper; motor driven heavy duty timber piler; motor driven precision lathe; motor driven, geared head engine lathe; bench grinders and electric tool post; motor driven, universal shaper; motor driven, sensitive floor type drill press.

Oil Burning Equipment.—Quartermaster, Edgewood Arsenal, Md.—Bids July 24 for fuel oil burning equipment.

Paint.—Comms., District of Columbia, Washington, D. C.—Bids July 23 for 1000 gal. red lead graphite paint.

Pipe (Cast Iron).—See Water Distribution System.

Pipe Line.—See Water Pumping Station.

Precision Lathe.—See Miscellaneous Machinery and Tools.

Radio Building.—Constructing Quartermaster, Capt. George Schumaker, Fort Monroe—Bids July 28 for construction of radio building at Langley Field, Va.; information on application.

Refrigerating Equipment.—Purchase Section, Bureau of Standards, Washington, D. C.—Bids July 16 for furnishing and installing carbon dioxide refrigerating equipment in power plant building, Bureau of Standards, Washington, D. C.

Riprap.—Supt. of Lighthouses, Baltimore, Md.—Bids July 15 for furnishing and placing riprap and driving steel sheet piling (piling to be furnished by government) at Point Lookout lighthouse depot, Md.

Roads.—State of Kentucky—Bids for 7 roads. See Construction News—Roads, Streets and Paving.

Road Roller.—War Lept., Washington Quartermaster Depot, Office Commanding Officer, 20th and C Sts., N. W., Washington, D. C.—Bids July 13 for furnishing services of road roller and operator at Arlington National Cemetery, Fort Myer, Va., for approx. 90 days, beginning on or about July 15.

Riveting Machine.—See Miscellaneous Machinery and Tools.

Sewer, Water and Drainage System.—Hodgson-Jones Construction Co., Inc., Montgomery, Ala., preparing bids to be opened July 14 for sewer, water and drainage systems at Maxwell Field and wants prices on all materials required.

Soda Ash and Rock Salt.—Quartermaster Supply Officer, U. S. Army, Fort Sam Houston, San Antonio, Tex.—Bids July 16 for soda ash and rock salt, for various deliveries.

Steam Boiler.—U. S. Engr. Office, Huntington, W. Va.—Bids July 15 for boiler for crane, Lock No. 1, Levisa Fork—maneuver boat.

Street.—Dallas, Tex. See Construction News—Roads, Streets and Paving.

Streets.—Miami Beach, Fla. See Construction News—Roads, Streets and Paving.

Streets.—McDonough, Ga. See Construction News—Roads, Streets and Paving.

Surfacing Machine.—See Miscellaneous Machinery and Tools.

Timber Piler.—See Miscellaneous Machinery and Tools.

Turret Lathe.—See Miscellaneous Machinery and Tools.

Universal Shaper.—See Miscellaneous Machinery and Tools.

Valves and Hydrants.—See Water Distribution System.

Water Piping (Brass).—Treasury Dept., Office of Supvg. Archt., Washington, D. C.—Bids July 28 for new brass water piping, U. S. post office, etc., Valdosta, Ga.

Water.—See Sewer, Water and Drainage System.

Water Distribution System.—Dept. of the Interior, National Park Service, Oliver G. Taylor, Engr. in Charge, Colonial National Monument, Yorktown, Va.—Bids July 20 for installation of complete water distribution system, including mains, valves and hydrants; work includes 11,000 ft. of 6-in., 4680 ft. of 8-in. c. i. pipe, 800 ft. of 2-in. genuine wrought iron pipe, 14 hydrants, four 8-in. and eighteen 6-in. valves.

Trade Literature

Pumping Machinery.—Catalogs, bulletins and other literature released in the past month by the Worthington Pump and Machinery Corporation, Harrison, N. J., include the following:

Steam-Air ejectors, for stationary and marine service. Specification Sheet W-205-B1. Centrifugal pumps, Types CA and CB. Specification Sheet W-310-S12A. Centrifugal pumps, Type WF; multi-stage turbine. Specification Sheet W-319-S3. Dry vacuum pumps, two-stage; feather valve; single horizontal; belt and steam driven. Specification Sheet L-711-S3. Horizontal duplex pot type, piston pattern pumps for oil; type P.T.; 18-inch stroke; maximum working pressure; Steam end—150 lb.; liquid end—Wompeco, 250 lb., cast steel, 500 lb.; various capacities and various liquid piston diameters. Specification Sheet W-112-S15.

Exide-Ironclad Batteries.—Recent sales of Exide-Ironclad batteries, as recorded in Exide-Ironclad Topics for June, official publication of the Electric Storage Battery Company, Philadelphia, manufacturers of these products, sound an optimistic note. Southern sales of batteries for industrial truck equipment were made to the following: U. S. Naval Air Station, Norfolk, Va.; U. S. Navy Yard, Portsmouth, Va.; Panhandle and Santa Fe Railway Co., Amarillo, Tex.; American Can Company, for use in New Orleans, La., and the Atmospheric Nitrogen Corporation, Hopewell, Va.

Carrick Stiff-Arm Fittings.—Under this caption, the Carrick Engineering Company, Chicago, combustion engineers and manufacturers of boiler plant equipment, have issued a bulletin devoted to new and improved Carrick fittings designed and manufactured especially to provide means for rigidly connecting controlled devices to regulating units in automatic combustion control systems. The use of these fittings will secure positive operation of devices to be controlled, it is claimed, simplifying erection and reducing installation costs of a control system.

Bearings and Brake Service.—The Wagner Electric Corporation, St. Louis, Mo., recently issued Bulletin S-349 under the title, "Steel-Backed Babbitt-Lined Bearings," discussing the problem of bearing seizure in electric motors, the superiority of babbitt bearings, and in general why Wagner standardizes on steel-backed babbitt-lined bearings for electric motors. Bulletin No. SD-338, is devoted to Wagner Brake Service for operators of trucks, trailers, buses, pleasure cars, taxicabs, etc.

(Continued on page 58)

LEADITE

Trade Mark Registered U.S. Pat. Office

The Consistent Demand for LEADITE
is the best evidence of its "true value"



Laying 9 Miles of 20-in. c. i. bell and spigot Water Mains with Leadite Joints

In practically every section of the United States—and in Mexico, Canada, South America—and in Overseas Countries, there can be found various sizes of bell and spigot pipe lines JOINTED WITH LEADITE.

LEADITE IS SPECIFIED AND USED by Water Works Men with increasing popularity from year to year.

LEADITE is, and always has been, a QUALITY PRODUCT—sold upon a QUALITY BASIS—and *that*, we sincerely believe, is the reason for its

widespread acceptance by Water Works Men.

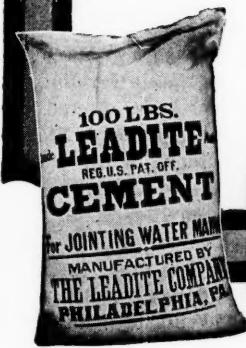
An example of the position which LEADITE occupies among Water Works Men, is briefly contained in the following short sentence—taken from a letter received by us from the Engineer of a large Southwestern City—he states:

"WE HAVE ABSOLUTE FAITH IN LEADITE JOINTS" (—and he has laid nearly 90 miles of pipe with LEADITE JOINTS).

*The pioneer self-caulking material for c. i. pipe.
Tested and used for over 30 years.
Saves at least 75%*

THE LEADITE COMPANY
Land Title Building

Philadelphia, Pa.



No Caulking'



(Continued from page 56)

Georgia Marble.—The Georgia Marble Company, Tate, Ga., is distributing three booklets, one devoted to personal memorials, another to Georgia marble and its relation to the architect, and a third to examples of bank work in Georgia marble. All are well illustrated.

ARMCO Metal Cribbing.—The Armco Culvert Manufacturers Association, Middletown, Ohio, has issued a booklet devoted to its latest product, Armco Metal Cribbing, recently developed by the American Rolling Mill Company, Middletown. The new cribbing is said to be adaptable to use for railroads and high retaining walls, bridge wing walls and river and harbor bank protection.

Combustion Steam Generator.—Under the foregoing title, the Combustion Engineering Corporation, New York, has issued catalog SG-1, illustrating and describing the Combustion steam generator, a single unit embodying in an integral design the several elements required in the production of steam. The unit is available in eight standard sizes providing a wide range of capacities for any desired steam pressure and temperature.

Grading Methods and Equipment.—The American Road Builders' Association, Washington, D. C., has issued bulletin No. 17 on Grading Methods and Grading Equipment and Construction and Compaction of Embankments, embodying a revised report first presented by the general committee on equipment. The bulletin includes also a report on the settlement of fills by the use of explosives, according to current practice in New Jersey.

Methods and Cost of Metal Mines.—Methods and costs in the metal mines of the country are discussed in Information Circular 6503, issued by the Bureau of Mines. From a study undertaken three years ago and continued up to the present, Charles Will Wright has summarized in the circular some pertinent data. Only 400 metal mines of the United States produced more than \$100,000 each in 1929, it is said, and it is with these mines the circular deals.

Continental Fence.—The Continental Steel Corporation, Kokomo, Ind., operating factories at Kokomo and Indianapolis and at Canton, Ohio, for manufacture of Continental chain-link fence for enclosures of all kinds, is distributing a catalog devoted to that product. Continental fence is made of "copper bearing" steel, with "hot dip" galvanizing after weaving. The company has distributors in all principal cities, the Baltimore territory being served by Dietrich Brothers, Baltimore.

Iron and Steel Report.—The Annual Statistical Report of the American Iron and Steel Institute, New York, for 1930, has been published in a volume of 126 pages and priced at \$5 a copy. The report contains comprehensive statistics of the iron and steel industry for the United States and Canada for 1930 and prior years, and foreign statistics for leading countries on iron ore, pig iron and ferro-alloys, and steel ingots and castings from 1905 to 1930 so far as available. It also presents an analysis of the tonnage of iron and steel products exported, showing exports for 1926-1930, inclusive, to certain countries and by geographical divisions.

Euclid-Armington Corporation

The Euclid Crane & Hoist Co., Chardon Road, Cleveland, Ohio, announces change of name to Euclid-Armington Corporation. Under the name of the Euclid Road Machinery Co. of the Euclid-Armington Corporation, the road machinery division will manufacture the Euclid line of earth moving machinery, including "Track-Wheel" wagons, hydraulic bulldozers, automatic wheel and rotary scrapers and tamping rollers. Business of the road machinery division of the Euclid Crane & Hoist Co., during the first six months of 1931, has been of such volume, it is said, as to necessitate removal to new quarters adjacent to its present location. Officers of the Euclid Road Machinery Co. are: A. P. Armington, president and general manager; W. G. Fleming, vice-president and general sales manager; H. J. Zimmerman, vice-president and works manager; S. F. Armington, secretary and chief engineer; G. A. Armington, treasurer, and A. Horton Bassett, assistant treasurer.

Acquires Chemical Plants

The Paper Makers Chemical Corporation, Kalamazoo, Mich., recently acquired the business and chemical manufacturing properties of the Georgia-Louisiana Corporation at Atlanta, Ga., and Marrero, La. Operations at these plants are now carried on under the name of the purchasing company, which has other Southern branches at Pensacola and Jacksonville, Fla., and at Savannah and Fargo, Ga. Officers of the company include: W. J. Lawrence, Kalamazoo, president; C. H. Knight, vice-president, and C. K. Williams, secretary-treasurer, both of Easton, Pa.

New Fusion Welding Distributor

The Fusion Welding Corporation, Chicago, has appointed the Puritan Compressed Gas Corporation, Kansas City, Mo., as distributors for the Weldite line of welding rods in the state of Kansas and the western portion of Missouri. Until recently the Puritan Corporation operated as the Kansas City Oxygen Gas Company, one of the oldest companies in the welding supply business in that section of the country. Its facilities include two plants, a warehouse and display room in Kansas City, with day and night service.

Adds Fordson Tractor

The Southern Iron & Equipment Company, Atlanta, Ga., has added the Fordson tractor and allied lines to other products the company distributes throughout its territory which includes a portion of North Carolina and Tennessee and the greater part of Georgia and Alabama. With the Fordson tractor, it distributes farm implements and road machinery, such as the F. & N. mower, Wehr equipment, Athens plow, T. & S. implements, Detroit harvester, etc.

Furniture Factory Offered

By virtue of a court decree, R. H. Ward, Kingston, Tenn., trustee in bankruptcy of the Dame Furniture Co., will offer at public auction July 28 on the premises at Harriman, Tenn., lands, factory buildings, machinery, tools, equipment, office furniture and supplies of the company. An inventory of the property may be had from Mr. Ward.

Changes in Gould Pumps, Inc.

The following changes in headquarters and branch office staffs of Goulds Pumps, Inc., Seneca Falls, N. Y., have been announced by H. W. Foulds, assistant to the president and general sales manager: Henry L. Boyer, manager of farm-suburban sales; Henry F. Miller, manager of industrial sales; W. G. Allen, manager of engineering sales; J. B. Anderson, in charge of the "Department of Inquiry and Estimate"; G. W. Cramer, advertising manager; Mark D. Rowe, formerly Eastern manager of Servel Sales, Inc., manager of New York office; J. B. Foley, formerly manager of Goulds Pittsburgh office, manager of Chicago office; Fred Jones, formerly connected with Goulds Philadelphia office, manager of Pittsburgh office. To better serve pump users in the Southwest, the company has opened a new branch office at 417 Magnolia Building, Dallas, Tex., Fred Hayes, manager. This is in addition to offices in Houston, Tex., and Tulsa, Okla.

Story of Lubricating Oil

In cooperation with an industrial organization, the United States Bureau of Mines has prepared a two-reel motion picture film, "The Story of Lubricating Oil," which may be obtained for exhibition purposes by schools, churches, clubs, civic and business organizations and others from the Pittsburgh Experiment Station of the Bureau of Mines, Pittsburgh, Pa.

Steel Shipment to St. Louis

St. Louis, Mo.—The first shipment of sheet steel to be brought to St. Louis by barge line recently arrived here in a barge of the Union Barge Line of Pittsburgh, Pa., the shipment consisting of 600 tons consigned to the Schlueter Manufacturing Co. This shipment is the equivalent of about 20 freight car-loads, representing a saving in freight charges, it is said, of approximately \$1300. The shipment came from Weirton, W. Va., the barge and towboat requiring about 2½ weeks for the trip down the Ohio River and up the Mississippi River. The steel will be used for the manufacture of kitchen utensils and galvanized iron products, such as buckets.

Cotton Manufacturers Elect

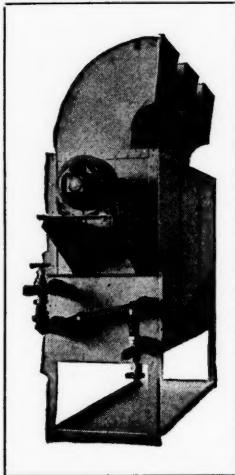
Asheville, N. C.—The Cotton Manufacturers Association of South Carolina, at its annual convention here, elected the following officers: W. Shepard Nicholson, Greenville, president of the Union-Buffalo Mills Co., president, succeeding T. H. Marchant, Greenville; S. M. Bennett, Greenville, president of the Piedmont Manufacturing Co., first vice-president; M. P. Orr, Anderson, president of Orr Mills, second vice-president, and W. T. Jacobs, Clinton, secretary.

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Gennaco Trinidad Bonded Roofings, made with alternate layers of Gennaco Trinidad Lake Roofing Asphalt and layers of Gennaco all-rag felt, now include the following:

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Gennaco Trinidad 10-year Bonded Roofing with smooth surface. Guaranteed ten years by The United States Fidelity and Guaranty Company, Baltimore, Maryland.

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**TRINIDAD
BONDED
ROOFING**

Turpentine Business Faces Brighter Prospects

(From Jacksonville Times-Union)

Congratulations are due to all who in any way or manner are interested in the great turpentine and rosin industry of the South on the brighter business prospects now being noted. For a long time past this important industry has been languishing, in fact, has been in the depths of depression, mainly because of lack of organization, and the lack, also, of employment of modern business methods. All this is being changed, and very rapidly, by the organization that has been effected and that now is functioning under the name of the Gum Turpentine-Rosin Marketing Association, with headquarters in this city.

Only last week a very important step forward was reported by this organization, which depends for its strength on the efficiency with which it may operate, when it was reported that the very largest of distributors of turpentine gum products in the United States had joined hands with the association, thereby bringing it into a position by which it will be able to handle approximately 80 per cent of the turpentine gum produced in the United States. This latest firm to "sign up" with the association is Taylor Lowenstein & Company, of Mobile, Ala., following closely similar action taken by Columbia Naval Stores Company, Savannah, said to be the largest distributor in the world of turpentine gum products.

According to Thomas J. Aycock, executive vice-president of the association, bringing to a successful conclusion negotiations with the Mobile firm "brings into association the large production by turpentine gum farmers who hitherto have shipped their product exclusively through Taylor, Lowenstein & Company;" also, "this extends the territory covered by members of the association as far west as Eastern Texas, and increases the product that will be handled exclusively by the association to approximately 80 per cent of the turpentine gum produced in America."

In this same connection, Mr. Aycock states that "in agreeing to handle only the products of the association, these gentlemen have expressed themselves as being deeply indebted to the producers and consumers of turpentine gum products who have made their great success possible, and they are more than glad to co-operate with the industry in a program which they realize is for the betterment of both producers and consumers."

As the strength of the Gum Turpentine-Rosin Marketing Association, and also its ability to function with utmost benefit to its members, depends on a large majority of those engaged in the industry being allied with and in co-operation with the association, the importance of these latest accomplishments can be seen. There scarcely is room for doubt concerning the success of the association, now that it has acquired strength through enlisting the co-operative efforts of such a large percentage of individuals and firms engaged in the industry. Nor is there doubt concerning the ability of the executive officials of the association to direct wisely and efficiently the enormous business which this organization will have from henceforth.

With these assurances it is entirely

reasonable to expect that the business of the turpentine gum industry is passing from a prolonged period of depression into an era of progress and prosperity, as is the hope of everyone wishing to see a great and important industry in a flourishing condition, and especially for the reason that it touches the individual interests of so very many people through a wide extent of territory, as well as general business interests in many states of the South.

Fifth Boiler for Utilities Plant

Baton Rouge, La.—A fifth boiler is being installed in the plant here of Louisiana Steam Products, Inc., and the present water treating plant, which is designed to remove from 6 to 120 tons of solids a day from water taken from the Mississippi River for use in the boilers, is being enlarged to meet the needs of the new boiler, which will have a capacity of 1382 horsepower and is scheduled for operation in September. As of June 25, the stack was practically complete and the boiler about 25 per cent complete. The Stone & Webster Engineering Corporation, New York, is handling the work and sub-contracts have been awarded as follows:

Structural steel—Converse Bridge Co., Chattanooga, Tenn.
Water purifying equipment—Permutit Co., New York
Boiler, water walls, superheater, economizer and air preheater—The Babcock & Wilcox Co., New York
Auxiliary turbines—The Terry Co., Hartford, Conn.
Draft fans—B. F. Sturtevant Co., Hyde Park, Boston, Mass.
Steel stacks, flues, breeching, air ducts and burner front—R. D. Cole Manufacturing Co., Newnan, Ga.

Alabama Limestone for Philadelphia Station

Russellville, Ala.—An order for 250,000 cubic feet of Alabama limestone for the new Pennsylvania Railroad station in Philadelphia has been placed with the Rockwood Alabama Stone Co., whose quarries are located near here. Shipment of the stone will begin soon, according to C. A. Perry, general manager of the local company, and it is estimated that 500 cars will be required to move it. For several months, the quarries will operate day and night on this order, which is one of several large orders recently booked by the company.

Steel Construction Meeting

The ninth annual convention of the American Institute of Steel Construction is to be held October 27-31, at the Greenbrier Hotel, White Sulphur Springs, W. Va. A program designed to give special emphasis to internal problems of the structural steel industry is now in preparation.

\$2,000,000 RAILROAD CONTRACT

Baltimore Firm Secures Part of Pennsylvania Railroad Work

The Pennsylvania Railroad has awarded a \$2,000,000 contract to the Arundel Corporation, Baltimore, in connection with its program to electrify its lines between New York and Washington, at an estimated cost of \$175,000,000, including a \$22,500,000 improvement program for Baltimore, which will involve the construction of two double-track tunnels, removal of grade crossings, construction of buildings and electrification work. The present contract is said to pertain to laying conduits for underground electric wires and setting poles in concrete for carrying overhead transmission wires. This is said to be only a part of the work the Arundel Corporation expects to get in connection with the railroad program.

\$3,000,000 Locomotive Parts Order

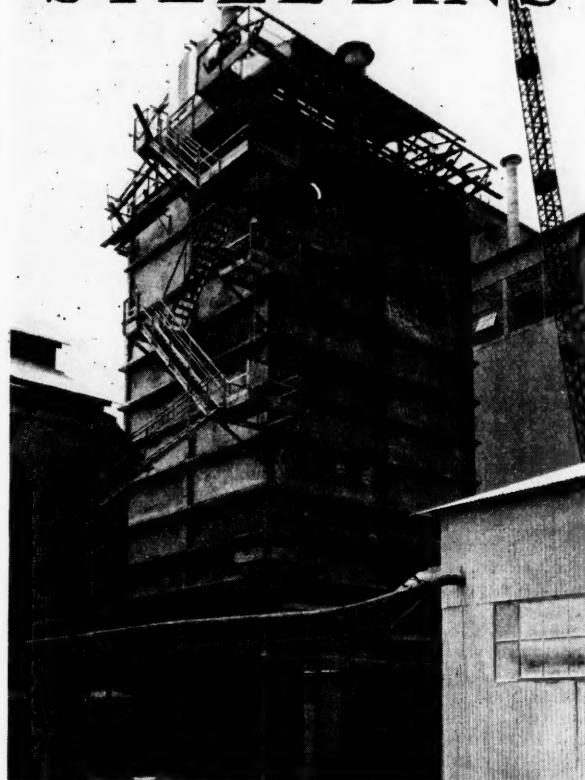
The Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa., has placed an order with the Baldwin Locomotive Works, Philadelphia, Pa., to build mechanical parts for 54 heavy electric passenger locomotives for the Pennsylvania Railroad. Baldwin will fabricate and assemble the parts at its Eddystone plant, from which they will be moved to the Westinghouse plant at Lester, Pa. Work will start in the fall, it is said, involving an outlay of \$3,000,000. The Pennsylvania Railroad will use the locomotives for hauling trains between New York and Washington, upon completion of the electrification of the line which is now in progress.

Katy Buys 105-Mile Railroad

Beaver, Okla.—The Beaver, Meade and Englewood Railroad Company, Jacob Achenbach, president, Hardtner, Kan., operating a 105-mile rail line from Beaver to Keys in the Oklahoma Panhandle, has been acquired by the Missouri-Kansas-Texas Lines. The purchase price was \$2,300,000, involving a cash payment of \$1,750,000, according to Carl J. Turpin, Oklahoma City, vice-president and general manager of the Beaver, Meade and Englewood line.

The John W. Cowper Co., Inc., Richmond, Va., engineers and contractors, have opened an office at 843-851 National Press Building, Washington, D. C.

STEEL BINS - STEEL PLATEWORK



We build steel tanks, steel bins and all types of platework. Installations for Southern locations are fabricated in our Southern plant at Birmingham. Other sections are served from our Chicago, Greenville, Pa., and Bridgeburg, Ont. plants.

Units which can be shipped in one piece are assembled complete in the shop. Larger structures, like the bin at the left which we built at Attapulgus, Ga., are erected with our own experienced field crews.

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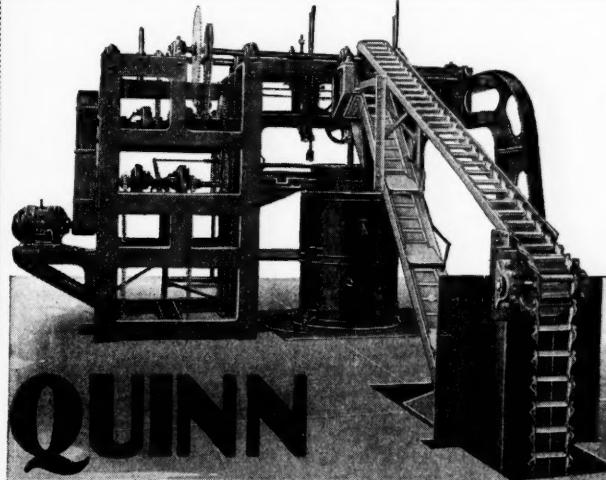
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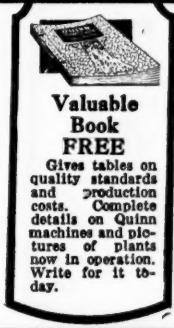
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Quality production on a quantity basis provided by two powerful tampers working just like a trip-hammer striking 300 to 400 lb. blows—370 each per minute—producing highest strength concrete in pipe known to the pipe industry.

Quinn machine made pipe exceeds the most rigid specifications and costs less to produce.

Large Sizes Only:—18" to 60" diameter—Lengths up to 72".

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Living Standards and Wages

The June number of the Journal of Accountancy, issued by the American Institute of Accountants, New York, contains an interesting editorial discussion of American living standards and the wage question. Referring first to the standard of living in this country, the editorial says:

"A group of accountants in course of discussion of the existing conditions in business turned to the question of wages, particularly wages of the artisan class and of unskilled labor. The discussion was stimulated by recent remarks by leaders of industry to the general effect that it would be undesirable to reduce the scale of compensation for labor, lest in the process the standard of living be lowered and general conditions be thereby adversely affected. The other side of the argument was represented by the writings of various economists and others, some of whom had expressed the opinion that, inasmuch as the cost of living had been substantially reduced, there could be and should be a proportionate decrease in the scale of wages without in any way affecting the so-called standard of living. There seemed to be a wide difference of opinion as to whether this reduction of wages, with certain exceptions, represented the sounder policy or not. It is undoubtedly true that there has been a great deal of nonsense spoken and written on the subject of the standard of living. It is certain the American workman lives in what would be regarded as affluence by the workmen of any other country.

"We have passed from the days of the humble wants of the toiler to what may be called the two-car age. He is, indeed, a poor man who cannot have two cars, one comparatively new and one still usable, in his garage. Most of the men who are thus doubly blessed cannot really afford the luxury of two cars, but they are accustomed to having what they want and as they want two cars we have come into the two-car age, whether the grocer or the butcher be paid or not. It is ridiculous to speak of these purely unnecessary luxuries as part of the standard of living. They may be part of the standard of extravagance, but not of living.

"Then again there seems to be no absolute necessity for many of the enjoyments which are now regarded as part of the standard of living. In the old days it was an event of importance to attend a theatre or an entertainment of any sort. Now the entire family feels down-trodden if it cannot be taken to the movies at least twice a week. The manner of dressing has become extravagant, and so have many other things, all of which the advocates of high wages endeavor to disguise as the American standard of living. But even supposing it were true that these things were necessary, it is difficult to understand how in a time of falling prices the maintenance of high wages is necessary to the continu-

ance of that standard of living. For example, if a man's wages are ten dollars a day and it costs him nine dollars to live and luxuriate, he is not as well off as he would be if his wages were six dollars a day and his costs four dollars. In the latter case his actual saving, if he saved, would be greater in number of dollars, and when the difference in the value of the dollar is considered his savings would be considerably more than doubled. All this is a theory of economy which has been reiterated time and again.

"The point of interest to accountants is the part which they may play in bringing about better understanding of the true conditions and in advocating resumption of something like a parity between wage and value received for the wage. To speak of the maintenance of high wages in time of falling costs is to speak of an enormous increase in wages. Take, for example, our workman whose wages have been ten dollars a day—if costs of living were nine dollars and they are now reduced to four dollars, his margin of saving has increased from one to six dollars and he still has the same necessities and luxuries which he had before. Is there any justification for maintaining wages in a time of depression when the maintenance of wages means an increase in wages?

High Wages and Politics

"The trouble is that so many business men who are employers of labor, and practically all politicians who depend upon labor for their existence seem to feel that it is necessary to pamper the working man at the cost of the stability of the country. The workman is entitled to a fair wage if he does a day's work; indeed, it is safe to go further and say that he is entitled to the utmost that can be paid him without injury to general conditions, but that is not to say that his income must remain intact or even increase while the man who pays him that income has suffered losses which are almost destructive. It is probably idle to hope for honest fair play in the political arena. Whatever section of the community has the most votes will have the most influence, and the men elected to office are, as a rule, attentive only to the voices of their masters, the workingmen's organizations. We yield to no one in our desire for high wages, but it does seem that the time has come to adopt a spirit of common sense. In nearly every office the salaries of the white collar workers have been reduced or, if not reduced, the staff has been decimated and all new employees are engaged at much lower compensation. In a great many industries men have been compelled to limit their working days to two or three or four a week so that the scale of wages might be maintained and our blessed standard of living perpetuated. There are some workmen who seem to feel that if they work two days a week at ten dollars a day they are

infinitely better off than they would be working six days a week at five dollars a day. The trouble with such men is that they need a knowledge of the results of the multiplication table."

Savings Deposits Increase

(From the *Charleston, W. Va., Gazette*)

Savings deposits have shown a steady increase in the last decade. The exception to this statement occurred in the fiscal year ending June 30, 1929, when a slight recession was registered. One of the contributing causes was undoubtedly the lure of profits to be made in stocks. With the advent of the depression, savings deposits again began to increase.

The following figures show the deposits in savings banks and the savings and thrift accounts of commercial banks, according to the figures of the American Bankers' Association:

June 30	Total Savings Deposits	No. Savings Depositors
1920	\$15,314,000,000	22,415,000
1921	16,501,000,000	27,793,000
1922	17,578,000,000	30,545,000
1923	19,727,000,000	35,879,000
1924	21,189,000,000	38,742,000
1925	23,134,000,000	43,850,000
1926	24,696,000,000	46,762,000
1927	26,091,000,000	48,355,000
1928	28,413,000,000	53,188,000
1929	28,218,000,000	52,664,000
	28,483,000,000	52,769,000

In the state of New York, which accounts for about one-fourth of the nation's savings, total deposits in savings banks, January 1, 1931, were \$4,794,000,000 as against \$4,391,000,000 on January 1, 1930, an increase of \$403,000,000, or nine per cent. The number of depositors increased from 5,125,000 to 5,336,000, an increase of 211,000, or 4 per cent.

A similar story is told by figures of the comptroller of the currency on the savings and thrift divisions of national banks:

Date	Savings Deposits	No. Savings Accounts
March 27, 1930	\$6,041,000,000	15,576,000
June 27, 1930	6,071,000,000	15,955,000
September 24, 1930	6,049,000,000	15,498,000
December 31, 1930	6,166,000,000	15,799,000
March 25, 1931	6,098,000,000	15,674,000

Postal savings deposits, which pay two per cent interest, increased \$22,000,000 during the fiscal year 1930, the highest annual increase since the war.

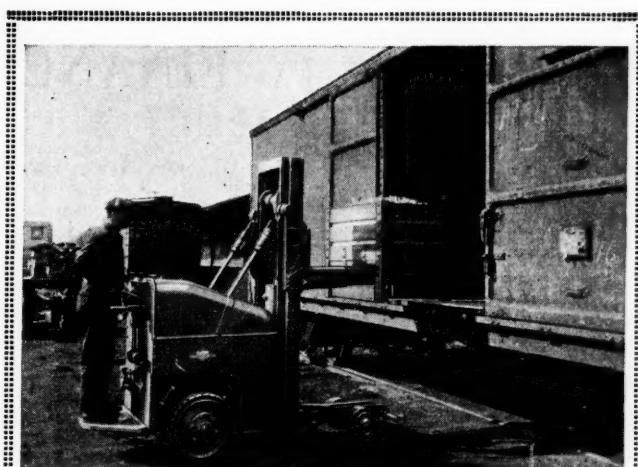
Comptroller of the Currency Pole has applauded the recent decrease of interest rates from four to three and one-half per cent, by four of the largest savings banks in New York City. "By paying high rates," Mr. Pole said, "the banks are tempted into buying securities where a high yield is sought, rather than securities of quality." A number of state bankers' associations have recommended an interest reduction by savings banks in their states. It is felt that such reduction would be in line with the general financial situation, with call money unusually low and the purchasing power of the dollar considerably increased. Those advocating lower savings bank interest rates claim also that the result would be to release to commercial banks or business enterprises some of those funds placed in savings banks purely as investment, while affecting only slightly those savings funds kept primarily for security.

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Stop the Leaks

In the construction of Dart Unions, the spherically constructed Bronze to Bronze seats eliminate the possibility of a leak. Extra heavy iron ends add strength and durability. Every Union is tested, and we guarantee to replace any defective union returned to us with two perfect ones.

We will mail you a free sample on request.

A shape and size to fit every need. Flanges, L's, T's, etc.

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Loads trucks, tiers heavy loads, indispensable in any plant, is at home in any warehouse.

CLARK "Tructrier"

A new lifting, carrying, tiering truck with rear wheel drive, four wheel steer and a 94 in. turning radius. Slips its pointed platform under a 3-ton load, makes off with it swiftly, tiers it to 6 ft. in 30 sec. and returns quickly for another job. *Gas-powered for 24 hr. continuous operation.*

Its short turning radius makes it especially useful in congested warehouses, in plants where aisles are narrow. With this equipment, heavy dies are quickly positioned, heavy materials are brought to presses and lathes and are positioned neatly.

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You're right! None... yet it is used and used without discrimination. This is a common condition... but not where Rundle - Spence fountains are installed, because R-S bubblers are outstandingly sanitary. This is the only make of fountain with Vertico-Slant discharge... the only fountain with a jet that lips cannot touch. That is why Rundle-Spence Bubblers are so universally accepted.

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are proof against rot and destruction by insects, yet clean and odorless. Send for a sample of ZMA Lumber.

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FINANCIAL NEWS

Bond Issues Proposed

Ala., Gadsden—City Comms. passed ordinance authorizing issuance of \$171,000, 5½%, \$1000 denom. refunding bonds.

Ala., Mobile—City soon call for bids for \$150,000 bonds: \$100,000, sewer extensions; \$50,000, waterworks.

Ala., Montgomery—State Legislature passed bills authorizing \$25,000,000 highway bonds; to be submitted to vote of people in November.

Ky., Covington—City Comms. authorized \$142,600 refunding paving bonds.

La., Amite—Tangipahoa Parish School Dist. votes July 28 on \$110,000 bonds.

La., Jonesboro—Consolidated School Dist. No. 23 of Jackson Parish voted \$150,000 high school building bonds, to be sold in about 60 days.

Md., Cambridge—City, reported, votes in July on \$350,000 sewer bonds. 4-23

Md., Easton—City, Mayor and City Council, opens bids July 15 for \$35,000 to \$45,000 bonds to pay off mortgage and retire bonded indebtedness against Easton Water Co.

Md., Rockville—Montgomery County, Berry E. Clark, Clk., opens bids July 14 for \$1,055,000, \$1000 denom., 4½% general construction bonds.

Miss., Laurel—Myrick School Dist. will vote on \$10,000 school building bonds.

Miss., Laurel—Myrick School Community voted \$10,000 bonds; not to be issued until after August meeting of Bd. of Supvrs.

Mo., Cassville—City voted \$12,500 water supply bonds.

Mo., Clayton, St. Louis—St. Louis County, P. G. Deuser, County Treas., opens bids July 16 for \$1,500,000 bonds.

Mo., Webster Groves, St. Louis—City voted \$100,000 city hall and fire station bonds.

N. C., Charlotte—Mecklenburg County School Bd. may issue \$40,000 construction bonds.

N. C., High Point—Local Government Coms., Ralegh, received no bids for \$760,000 school bonds. 6-25

N. C., Monroe—Monroe Graded School Dist. opens bids July 14, through Local Government Coms., Chas. M. Johnson, Sec., Raleigh, for \$30,000, not to exceed 6% bonds.

N. C., Raleigh—State, O. Max Gardner, Governor, reported, making plans for issuing part of \$2,000,000 World War veteran bonds. 12-11-30

N. C., Shelby—City, School Bd., opens bids July 14 through Local Government Coms., Raleigh, for \$26,000, 6%, \$1000 denom. bonds.

N. C., Shelby—City, Bd. of Aldermen, authorized sale of \$20,000 tax anticipation notes.

N. C., Valdese—City Council, J. C. Berry, Mayor, ordered election on \$150,000 water and sewage bonds.

Okla., Hinton—Hinton School Dist. call election on \$17,000 bonds.

S. C., Columbia—State, J. H. Scarborough, State Treas., rejected all bids for \$5,000,000 highway certificates of indebtedness. 6-18

S. C., Spartanburg—City votes July 14 on \$500,000 funding bonds.

Tenn., Jonesboro—Governor Henry H. Horton signed bill authorizing election in Washington County on \$300,000 school bonds; address County School Bd.

Tenn., Nashville—State Senate passed bill authorizing \$10,000,000 state road and bridge bond issue. 6-25

Tenn., Tiptonville—Lake County Court authorized issuance of \$14,000, \$1000 denom., not to exceed 6% bonds in anticipation of tax collections.

Tex., Brownsville—Brownsville Independent School Dist. voted \$80,000, 5%, \$1000 denom. bonds; to be sold by Bd. of Trustees, July 15. 6-18

Tex., Fort Worth—Tarrant County, reported, votes soon on \$1,000,000 city-county hospital bonds.

Tex., Longview—Gregg County Independent School Dist., H. L. Foster, Supt. of Schools, voted \$175,000, 5%, \$1000 denom. bonds.

Tex., Longview—City, Bill Taylor, City Mgr., voted \$295,000 bonds: \$50,000, new street paving; \$70,000, water and sewerage; \$175,000, school.

Tex., Pampa—City will issue \$20,000, 6% street paving warrants.

Tex., Savoy—Savoy Independent School Dist., W. A. Hawkins, Dist. Sec., call for bids at once for \$16,000, 5% building bonds.

Tex., Tyler—Smith County defeated \$250,000 hospital bonds. 6-4

Tex., Wharton—Wharton County, John Norris, County Judge, plans issuing 6% time warrants.

Tex., Wichita Falls—Wichita Falls Drainage Dist. No. 2 applied to Wichita County Court for permission to issue and sell \$53,000 bonds.

Bond Issues Sold

Ala., Gadsden—City sold \$171,000, 5½%, \$1000 denom. coupon refunding bonds to Ward, Sterne & Co., Birmingham.

Ky., Elkton—Todd County recently sold \$33,000, 5%, \$1000 denom. road and bridge bonds to Taylor, Wilson & Co., Cincinnati.

La., Gonzales—City, A. B. Coroy, City Clk., sold \$10,000, 6%, \$500 denom. natural gas distribution system bonds to Continental Bank & Trust Co., New Orleans, at par and accrued interest. 6-11

Md., Rockville—City, Roger Spates, Mayor, sold \$50,000, 4½% water and sewer bonds to syndicate consisting of Nelson, Cook & Co.; Baker, Watts & Co., and Townsend Scott & Son, all Baltimore, at 101.429. 6-25

Mo., Independence—Jackson County sold \$1,000,000 road and bridge bonds to syndicate composed of First Union Trust & Savings Bank, Chicago, Ill.; Prescott, Wright, Snider Co., Kansas City, Mo.; First Wisconsin Co., Milwaukee, Wis., and Stix & Co., St. Louis, Mo., as 4s, at 101.911.

N. C., Charlotte—Mecklenburg County sold \$75,000 notes to Commercial National Bank, Charlotte, at 2¾%.

N. C., Lenoir—Bank of Lenoir purchased \$15,000 notes at par with interest at 6%.

N. C., Morganton—First National Bank, Morganton, purchased \$12,000 Morganton securities at par and 6%.

N. C., Raleigh—North Carolina Corp. purchased \$100,000 notes, at par and interest of 3¾%.

N. C., Waynesville—Bank of Halifax, Halifax, purchased \$12,500, 6%, notes, at par and accrued interest.

N. C., Waynesville—City, reported, sold \$12,000, 6% revenue anticipation notes to First National Bank, Waynesville.

S. C., Charleston—City sold \$12,000, 4½% coupon paving series T bonds to Peoples State Bank of South Carolina, Columbia, at 98.78. 6-25

S. C., Columbia—City sold \$135,000 coupon certificates of indebtedness to Central Union Bank, Columbia; J. H. Hilsman & Co., Citizens & Southern Co., and Robinson-Humphrey Co., all Atlanta, as 4¾s, at 100.01.

Tenn., Mountain City—Johnson County sold \$50,000, 6%, refunding bonds to Merchants & Traders Bank, Mountain City.

Tex., Beaumont—Hall & Hall, Temple, purchased \$60,000 French School Dist. bonds at par, accrued interest and \$462.60 premium. 6-4

Tex., Dallas—Preston Road Water Supply Dist., reported, sold \$175,000 water supply bonds to Dallas Union Trust Co.

Tex., Big Spring—City, Merle J. Stewart, Sec., sold \$200,000, 5%, \$1000 denom. city hall, auditorium, fire station and jail bonds to White-Philipps Co., Davenport, Ia. at par, accrued interest and \$667.50 premium.

Tex., Santa Rosa—Guadalupe County recently sold \$137,000, 4½% refunding bonds to Brown-Crummer Co., Wichita, Kans., at 99.53.

Va., Danville—City, Charlton B. Strange, City Aud., sold \$160,000, 4½%, \$1000 denom. refunding bonds "J" to Taylor-Wilson & Co., Cincinnati, Ohio, at \$161.766 and accrued interest. 6-18

Va., Madison—Madison County recently sold \$80,000, 5%, \$1000 denom. refunding bonds to Taylor, Wilson & Co., Cincinnati, Ohio.

Building & Loan Associations

Md., Upper Marlboro—Prince George's County Suburban Home Building Association, chartered; Judge T. Van Clagett, William S. Hill.

New Financial Corporations

Fla., Miami—Florida National Bank and Trust Co., capital \$400,000, applied to Treasury Dept., Washington, for permission to organize; J. G. Bright, Correspondent, Jacksonville.

N. C., Lexington—Citizens' Bank & Trust Co., capital \$200,000, chartered; W. S. Anderson, A. I. Munns.

Va., Clintwood—Dickenson County Bank & Trust Co., formed to acquire Dickenson County Bank; Scott Litton, Pres., Clintwood; C. C. Long, V.-Pres., Clinchwood.

Citizens Bank, W. B. Lewis, Pres., Vienna, Ga., opened.

City Bank & Trust Co., T. Rad Turner, Pres., Macon, Ga., opened in former Luther Williams Bank & Trust Co. Bldg.

Tri-County Bank, C. C. Barksdale, Pres., Hanover, Va.; Doswell State Bank, M. B. Conine, Pres., Doswell, Va., and Beaverdam Bank, S. J. Doswell, Pres., Beaverdam, Va., plan merger.

Westinghouse Declares Dividends

Directors of the Westinghouse Electric and Manufacturing Company, meeting in New York June 24, declared a dividend of two per cent (one dollar per share) on both the preferred stock and common stock for the quarter ending June 30, 1931, payable July 31, 1931, to stock of record July 6, 1931. Explaining the action of the directors, A. W. Robertson, chairman of the board, said in part: "Although the earnings for April and May of the second quarter were not sufficient to cover the dividend requirements of the company, yet they were so far improved as to show a small profit as compared with a loss of three preceding months. It was the opinion of the directors that, considering the fine cash position of the company and the substantial surplus which has been accumulated over the past years and not distributed to the stockholders, dividends should be declared."

Engineers Public Service

Gross earnings of the Engineers Public Service Company, Inc., New York, and constituent companies, operating largely in the South, Southeast and Southwest, for the 12 months ended May 31, 1931, amounted to \$52,796,970, as compared with \$51,848,289 for the 12 months ended May 31, 1930. Net operating revenue was \$22,505,009, as against \$22,142,791. Gross earnings for the month of May, 1931, amounted to \$4,221,242, as compared with \$4,342,489 for May 1930, and net operating revenue to \$1,826,961, as against \$1,804,532.

The H. M. McCord Company, New York, specializing in mill supplies, textile machinery and equipment, surveys and appraisals, has opened an office in the Woodward Building, Greenville, S. C., in charge of Edwin Howard.

CENTRAL HANOVER BANK & TRUST COMPANY
NEW YORK CITY

*One of three
 main entrances
 at 70 Broadway*



Great Resources Demand Great Vaults

THE merger of the Central Union Trust Company of New York and the Hanover National Bank in 1929 brought together combined resources of nearly \$1,000,000,000. Protection of these vast resources at 70 Broadway required the installation of additional and stronger vaults. The selection of the York Organization to do the job is gratifying recognition of York's world-wide preeminence.

Entrances to the new vaults include three great main doors, each weighing approximately 120,000 pounds. These entrances are equipped with lowering platforms and each vault is further provided with a circular emergency entrance of the same thickness as the main entrance.

YORK SAFE AND LOCK CO.

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New Home of the
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"LABOR conditions unsurpassed by any large city in the country." Thus Baltimore answers one of the first and most important questions of the manufacturer seeking an industrial site. You will find many other Baltimore advantages described in a booklet, "Locate in Baltimore," which we will be glad to send you.

BALTIMORE TRUST COMPANY

Capital and Surplus, \$10,500,000

MEMBER FEDERAL RESERVE SYSTEM

HAVE YOU BONDS FOR SALE?
WE BUY ALL CLASSES OF MUNICIPAL BONDS,
INCLUDING CITY, COUNTY, SCHOOL,
PAVING, ROAD AND DRAINAGE

The Hanchett Bond Co. Inc.
39 SOUTH LA SALLE ST., CHICAGO

\$5,541,000 IMPROVEMENTS STARTED

District of Columbia Appropriation
Available for Fiscal Year

Washington, D. C.—With a Congressional appropriation of \$5,541,445 for construction in the District of Columbia during the fiscal year 1932, the Office of Public Buildings and Public Parks has begun some proposed improvements. Projects listed for the year include the following: Warehouse to cost \$1,310,000; road in Mall, \$100,000; construction of tunnel and installation of pipe line between central heating plant and Judiciary Square Building, \$52,000; heating plant in West Potomac Park, \$750,000; improvement of Rock Creek Park and Potomac Parkway, \$279,000; development of Maridian Hill Park, \$100,000; improvement of Rock Creek roadway to district line, \$37,000, and the completion of Arlington Memorial Bridge, \$1,000,000. An appropriation of \$15,000 is

available for flood lights for the Washington Monument and tests of the proposed lights are now being made.

New Type Planes to Speed

Service

New Orleans, La.—A new type airmail-passenger plane, to be built at a relatively small cost, for carrying passengers and mail, will be built by the American Airways, Inc., according to F. G. Coburn, president. The new ship will be a monoplane, powered with a 575-horsepower Pratt & Whitney Hornet motor, and is designed to carry one pilot, 400 pounds of mail and 8 passengers. Fourteen will be put into service as soon as possible. American Airways, Inc., has inaugurated airmail and passenger service between New Orleans and Memphis, and is prepared to give similar service between Memphis and St. Louis, thus giving New Orleans a 7-hour air service to Chicago.

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GWYNN CROWTHER, President

26 South Street, Baltimore, Md.

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JOHN NUVEEN & CO.

First National Bank Building CHICAGO

We purchase SCHOOL, COUNTY and MUNICIPAL BONDS. Southern Municipal Bonds a Specialty.

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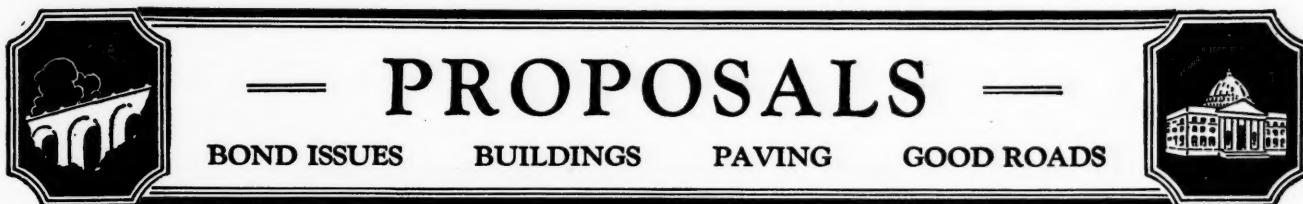
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53 State Street, Boston 1600 Walnut Street, Philadelphia		

Plane Production Increasing

Washington, D. C.—A report issued by the aeronautical branch of the Department of Commerce shows there has been a steady increase in plane production each month since January of the current year, although the production and sales of commercial planes are less than a year ago. Production for the first four months of 1931 was 491 units, of which 479 units were sold, while for the corresponding period last year 703 commercial planes were produced and 694 sold. The value of planes manufactured this year, without engines, is estimated at \$2,205,626, and of those produced in the corresponding period last year, \$4,255,609. In January of this year 59 planes were produced; 88 in February, 148 in March and 196 in April. Aircraft engines produced in the first quarter of 1931 show an increase as compared with production in the first quarter of 1930, the figures being 769 as compared with 732, while 783 engines were sold in the first quarter of this year, as compared with 667 sold in the first quarter of 1930.



PROPOSALS

BOND ISSUES**BUILDINGS****PAVING****GOOD ROADS**

Bids close July 28, 1931.

TREASURY DEPARTMENT, office of the supervising architect, Washington, D. C., June 30, 1931.—SEALED BIDS in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 2 p. m., July 28, 1931, for furnishing all labor and materials and performing all work for new brass water piping, etc., at the U. S. post office, etc., Valdosta, Ga. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications may be obtained from the custodian at the building or at this office, in the discretion of the supervising architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close July 27, 1931.

TREASURY DEPARTMENT, office of the supervising architect, Washington, D. C., June 29, 1931.—SEALED BIDS in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 2 p. m., July 27, 1931, for furnishing all labor and materials and performing all work for new heating system, etc., at the U. S. post office and court house, Tallahassee, Fla. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications may be obtained from the custodian at the building or at this office, in the discretion of the supervising architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close July 23, 1931.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., July 2, 1931.—SEALED BIDS, in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., July 23, 1931, for furnishing all labor and materials and performing all work for the construction of the U. S. post office, etc., at Eatonton, Ga. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding three (3) sets, may be obtained at this office in the discretion of the supervising architect by any satisfactory general contractor, and provided a deposit of \$15.00 is made for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be accepted. JAS. A. WETMORE, Acting Supervising Architect.

Bids close July 24, 1931.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., July 3, 1931.—SEALED BIDS, in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., July 24, 1931, for furnishing all labor and materials and performing all work for the construction of the U. S. post office, etc., at Woodstock, Va. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding three (3) sets, may be obtained at this office in the discretion of the supervising architect by any satisfactory general contractor, and provided a deposit of \$15.00 is made for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be accepted. JAS. A. WETMORE, Acting Supervising Architect.

Bids close July 28, 1931.

Virginia Highway Work

Richmond, Va.

Sealed bids will be received Tuesday, 10 A. M., July 28, 1931, Va. Dept. of Highways, State Office Bldg., Richmond, Va., for the construction of:
 Proj. Length Type Excava. Sq. Yds.
 641 2 Mi. Mac. 26,722 22,651
 716 10 Mi. Gr. & Dr. 70,113
 Details obtainable upon request.

GENERAL INFORMATION**About Proposal Advertising
in Manufacturers Record****PUBLICATION DAY: Thursday.
FORMS CLOSE: 10 A. M. Tuesday.**

When too late to send copy by regular mail to reach us by 10 A. M. Tuesday, forward by night letter or air mail when possible

**THE DAILY CONSTRUCTION BULLETIN
OF THE
MANUFACTURERS RECORD**

Published every business day, gives information about the industrial, commercial and financial activities of the South and Southwest.

The Daily Construction Bulletin can be used to advantage when copy cannot reach us in time for publication in the Manufacturers Record before bids are to be opened or when daily insertions are necessary to meet legal requirements.

The rate is the same for both publications—35 cents a line each insertion.

Bids close July 28, 1931.

U. S. ENGINEER OFFICE, FIRST NEW ORLEANS DISTRICT, Poland and Dauphin Sts., New Orleans, La., June 27, 1931.—Sealed bids, in duplicate, will be received until 3 P. M., July 28, 1931, and then publicly opened for furnishing all labor and materials and performing all work for dredging the Louisiana and Texas Intra-coastal Waterway, Mississippi River-Atchafalaya River Section, from Bayou Blue to Bayou Chene, La., comprising approximately 8,744,600 cubic yards, place measurement. Further information on application.

Bids close July 14, 1931.

Maryland Highway Work**DEPARTMENT OF PUBLIC WORKS
STATE OF MARYLAND
STATE ROADS COMMISSION****NOTICE TO CONTRACTORS**

Baltimore, Md.

SEALED PROPOSALS for building seven sections of State Highway as follows: Baltimore County, Contract No. B-188-44—One section of State Highway along Greenspring Avenue from Garrison Road toward Baltimore City, a distance of 2.2 miles (Concrete)

Calvert County, Contract No. C-51-82—One section of State Highway from Chantilly toward the Patuxent River, a distance of 1.90 miles (Gravel)

Carroll County, Contract No. C-1-98-511—One section of State Highway along the Liberty Road from Eldersburg toward Taylorsville, a distance of 2.13 miles (Resurfacing with Penetration Macadam)

Harford County, Contract No. H-125-42—One section of State Highway along the Aldino Road from the Susquehanna Power Co. Railroad tracks in Havre de Grace to the beginning of the State Road, a distance of 0.83 mile (Macadam)

Harford County—Baltimore County, Contract No. H-128-42-B-209-42—One section of State Highway along the Jarrettsville-Baldwin Road from the end of Contract No. H-108 toward Baldwin, a distance of 1.30 miles (Concrete)

Montgomery County, Contract No. M-100-52—One section of State Highway along the Laytonville-Woodfield Road from the end of Contract No. M-75 to the beginning of Contract No. M-122 south of Woodfield, a distance of 0.75 miles (Concrete)

Wicomico County, Contract No. W-1-78-17—One section of State Highway along the east approach to the Vienna Bridge, a distance of 1.2 miles (Concrete)

will be received by the State Roads Commission at its offices, Federal Reserve Bank Building, Calvert and Lexington Streets, Baltimore, Maryland, until 12 M. on the 14th day of July, 1931, at which time and place they will be publicly opened and read.

Bids must be made upon the blank proposal form which, with specifications and plans, will be furnished by the Commission upon application and cash payment of \$1.00, as hereafter no charges will be permitted.

No bids will be received unless accompanied by certified check, payable to the State Roads Commission of Maryland, as required by Sec. 6, Chapter 539, Acts of 1931, of the amount as set forth in the proposal form.

The successful bidder will be required to give bond and comply with the Acts of the General Assembly of Maryland respecting contracts.

The Commission reserves the right to reject any and all bids.

BY ORDER of the State Roads Commission this 30th day of June, 1931.

G. CLINTON UHL, Chairman.

L. H. STEUART, Secretary.

Bids close July 16, 1931.

\$35,000 5% Street Improvement**Bonds**

McDonough, Ga.

\$35,000 City of McDonough, Ga., Street Improvement bonds, 5% semi-annual interest & Principal Payable Guaranty Trust Co., N. Y. Maturities—\$1,000, 1/1/37 to 1951, \$2,000. Annually 1952 to 1961. Will be offered for sale by sealed bids 12 o'clock July 16, 1931. Certified check 2%. Purchaser to furnish and print bonds. Right reserved to reject any and all bids.

W. J. GREER, City Clerk & Treas.

Bids close July 24, 1931.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., June 26, 1931.—SEALED BIDS in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., July 24, 1931, for furnishing all labor and materials and performing all work for repairs for boilers, etc., at the U. S. Custom House, New Orleans, La. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931, (Public No. 798). Drawings and specifications may be obtained from the custodian at the building or at this office in the discretion of the supervising architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close July 16, 1931.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., June 26, 1931.—SEALED BIDS in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., July 16, 1931, instead of at 3 p. m., June 29, 1931, for furnishing all labor and materials and performing all work for additions to heating system and electrical changes in the U. S. post office and court house, New Orleans, La. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications may be obtained from the custodian at the building or at this office in the discretion of the supervising architect. JAS. A. WETMORE, Acting Supervising Architect.

CLASSIFIED OPPORTUNITIES

MINERAL AND TIMBER LANDS, WATER POWER, MISCELLANEOUS PROPERTIES

GOLD MINE for sale that has Government assays that run as high as \$100.00 per ton, over 600 acres.

H. G. LOVE, Hendersonville, N. C.

MANGANESE PROPERTY

VIRGINIA MANGANESE PROPERTY—396 acres with two leads of high grade ore. Only in prospect stage now but every indication of huge deposits easily mined. One lead through top of Mountain with ore body exposed within few feet of surface. A wonderful opportunity for one familiar with developing such a property. Sell or Lease.

BOX 137
LYNCHBURG, VIRGINIA.

GAME PRESERVE

WONDERFUL GAME Preserve, 1400 acres, N. C. 8 million ft. virgin timber, 300 acres pine piling, large number deer, bear and turkeys, \$7.50 an acre. Also a similar property 7900 acres, 20 million ft. timber \$10 per acre, terms cash.

W. T. BAILEY, Suffolk, Va.

FARM, FRUIT AND TRUCK LANDS

ALABAMA

FOR SALE, 6800 acre Baldwin Co., Ala., on main line L. N. R. R., including small town with all buildings and improvements, Pecan Orchard, Timber, good water, \$8 per acre, half cash. Also 3550 acres adjoining in N. W. Florida. Owner, Mrs. H. M. LAWRENCE, Dyas, Alabama.

VIRGINIA

FOR SALE

Old Colonial home in Essex Co., on Rappahannock River. Good sand beach, fine for bathing. Good fish and oysters. Large yard, beautiful view, lots of good timber, good landing, and good farming land, 250 acres or more at \$80.00 per acre.

W. T. EUBANK,
3101 Jefferson Ave., Newport News, Va.

BUSINESS OPPORTUNITIES

FOR SALE

Manufacturing Rights on patented burial couchette. Royalty basis.
RAYMOND LEE,
1160 East 82nd St., Los Angeles, California.

WANTED TO LEASE: Weekly or semi-weekly newspaper in town not over 8,000, with purchase privilege; give earnings, circulation, when founded, price. Address No. 9118 care of Manufacturers Record.

WANT TO GET in touch with nation-wide selling organization interested in handling anti-rumbling device for model "A" Fords. C. W. PALMORE, Lakeland, Fla.

MANUFACTURING PLANT FOR SALE: On account of ill health of owner, a plant manufacturing Flavoring Extracts and Grocers' Drugs in own building. This business has grown steadily each year and has shown good gain this year. Established for 18 years. No. 9112, Manufacturers Record.

WANTED—Bids on manufacturing two lines of agricultural implements, rapid sellers and good profit. Must have well equipped shop, capable of handling grey iron and aluminum castings, and a small amount of wrought-iron work. P. O. Box 448, Jacksonville, Fla.

RATES, TERMS AND CONDITIONS

RATES: 30 cents a line each insertion. Minimum space accepted, four lines. In estimating the cost allow six or seven words of ordinary length to line. When the advertisement contains a number of long words proper allowance should be made.

Rates for Special Contract:

100 lines 28c a line
300 lines 26c a line
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TERMS: For transient advertising cash with order; check, post office or express money order or stamps accepted.

On special contract advertising bills are rendered monthly, covering space used each month, payable within ten days.

CONDITIONS: No patent medicine, oil or mining stock advertisements or questionable or undesirable advertisements will be accepted. The assistance of our readers in excluding undesirable advertisements is requested. No display type used.

BUSINESS OPPORTUNITIES

LONG TERM LOANS, large amounts, made on industrial, mercantile, sawmill properties. THOS. W. GILMER, Attorney, Bay Minette, Alabama.

SALES, Consolidations, Mergers of Industrial properties, Manufacturing plants. Twenty-five years successful negotiating. HARWELL & GARDEN, Comer Bldg., Birmingham, Ala.

I KNOW TEXAS—
Unlimited Opportunities In
Manufacturing—Mining—Oil—
Write Me

A. R. ANDERSON, Box 2551, Dallas.

WANTED—A PARTY to finance the manufacturing and distribution of Liquid Aspirin, best preventative for influenza. Address No. 9119, care of Manufacturers Record, Baltimore, Md.

MANUFACTURERS—Write for our FREE Classification Sheets of inventions for sale, covering 135 main subjects, and in one or more of which you will doubtless be interested. ADAM FISHER MFG. CO., 578 Enright, St. Louis, Mo.

MOVING AHEAD

Parkersburg has worked out of the depression. Diversified industry did it. Locate your factory here at the gateway to the Central West and South.

BOARD OF COMMERCE,
Parkersburg, West Virginia.

INDUSTRIAL SURVEYS

ENGINEERING REPORTS on resources of cities and towns. Recommendations for industrial development and zoning made by specialists in locating industries.

TECHNICAL SERVICE CO.,
Woolworth Building, New York City

POPULATION MAP of the United States 3x4 ft. locating Cities of 5,000 or over, 1930 Census figures. Quick reference without referring to index. Paper \$3.50, cloth \$5.00. Also State, United States, and Continental outline maps in various sizes.

THE A. C. WAGNER COMPANY,
514 Main St., Cincinnati, O.

INDUSTRIES WANTED

WANTED—Pecan cracking and processing plant in the heart of the native pecan country, 300 car loads a year in a radius of 50 miles. CHAMBER OF COMMERCE, Pauls Valley, Okla.

WANTED—Manufacturing plants to locate at Wardensville, W. Va. Electricity, good water, cheap labor, railroad facilities, good highway, beautiful and healthful mountainous section. Write Board of Trade, Wardensville, W. Va.

LOCAL CAPITAL AVAILABLE FOR SMALL INDUSTRIES

If your project needs cheap, intelligent labor, good factory site, ideal living conditions and local financing, get in touch with the Secretary,

Clarksdale and Coahoma County CHAMBER OF COMMERCE, Clarksdale, Mississippi.

INDUSTRIAL PLANTS

A \$600,000 TILE FACTORY can be bought dirt cheap and on easy terms to satisfy claims of some \$160,000.

3 tunnel kilns, ten cone kilns. For complete information write G. B. MARTIN, Zanesville, Ohio.

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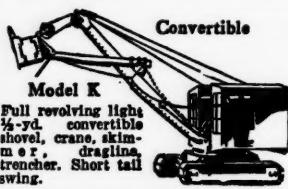
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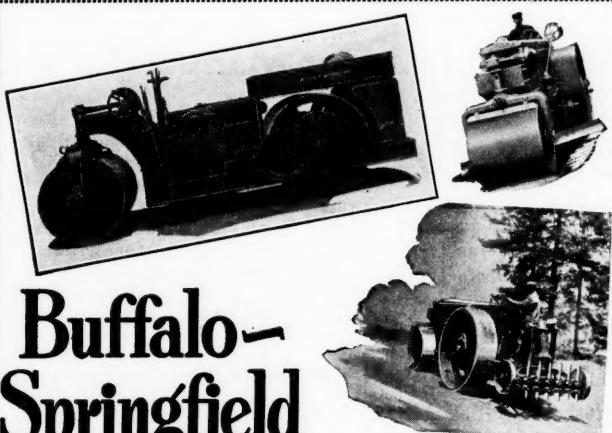
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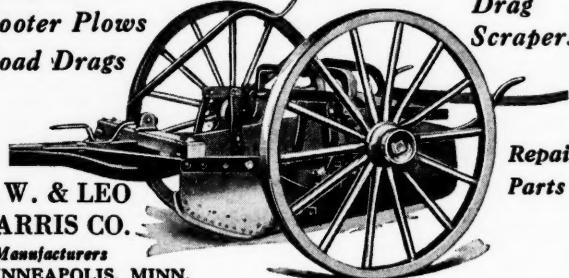
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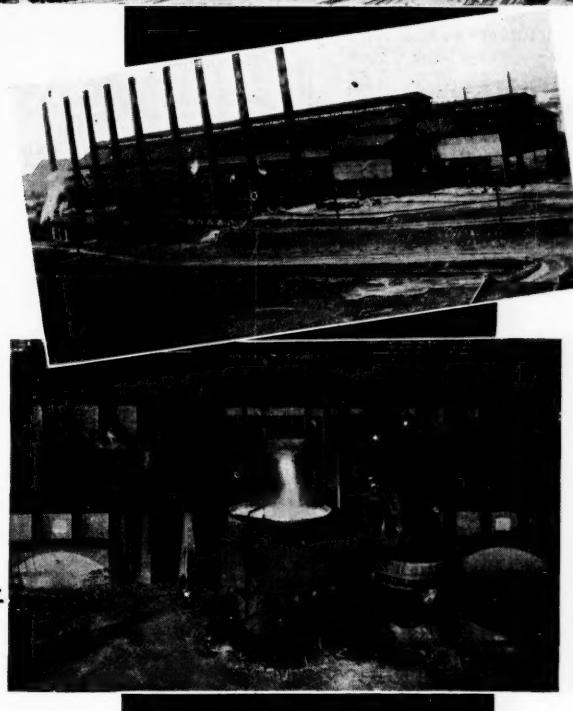
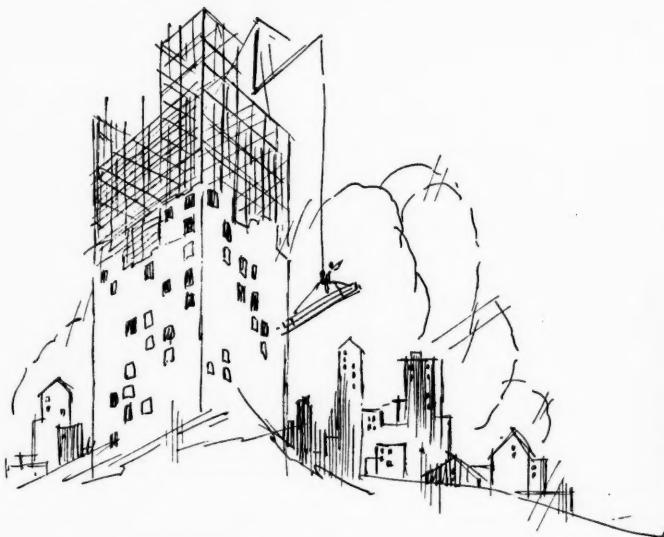
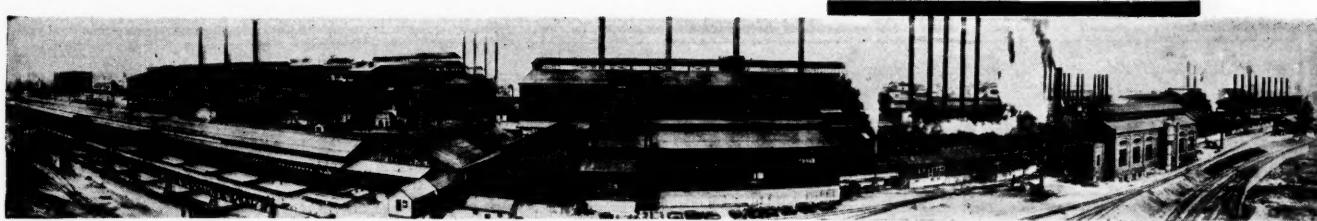
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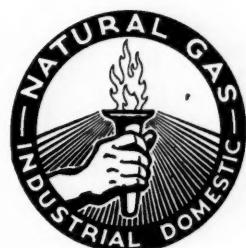
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Classified Index for Buyers

ABRASIVE MATERIALS.

Carborundum Co., Niagara Falls, N. Y.

ACCOUNTANTS (Cert. and Cost.)

Audit Company of the South, Atlanta, Ga.

AERIAL TOWERS.

LeBourg, A., Gadsden, Ala.

AIR COMPRESSORS (Stationary and Portable)

Armstrong & Bro. Co., R. S., Atlanta, Ga.
De Laval Steam Turbine Co., Trenton, N. J.
General Electric Co., Schenectady, N. Y.
Quincy Compressor Co., Quincy, Ill.
Westinghouse Traction Brake Co., Wilmerding, Pa.

AIR CONDITIONING SYSTEMS.

Niagara Blower Co., New York, N. Y.

AIR HEATERS.

Babcock & Wilcox Co., New York.

AIRLOCKS.

Alco Products, Inc., New York, N. Y.

AIRPORTS.

Shaw Co., Russell B., St. Louis, Mo.

ANGLE IRON-WORKING MACHINERY.

Whitney Metal Tool Co., Rockford, Ill.

APPRaisERS.

Conrad, William R., Burlington, N. J.
Main, Inc., Chas. T., Boston, Mass.

ARCHITECTS.

Chase, Wm. J. J., Atlanta.
Main, Inc., Chas. T., Boston, Mass.
Milburn, Heister & Co., Wash., D. C.
Moyer Co., Tilghman, Allentown, Pa.
Preacher & Co., Inc., G. Lloyd, Atlanta.
Surrine & Co., J. E., Greenville, S. C.
Wheeler, Walter H., Minneapolis, Minn.

ARCHITECTS' SUPPLIES.

Weber Co., Inc., F., Philadelphia, Pa.

ARCHITECTURAL IRON WORK.

Dietrich Brothers, Baltimore, Md.
Virginia Bridge & Iron Co., Roanoke, Va.

ASPHALT.

Gulf Refining Co., Pittsburgh, Pa.
—(Emulsified.) Headley Emulsified Products Co., Philadelphia, Pa.

Filler.

American Limestone Co., Knoxville, Tenn.
—Paving. Barber Asphalt Co., Philadelphia, Pa.

Plants.

Simplicity System Co., Chattanooga, Tenn.

AUDITORS.

Ernst & Ernst, New York, N. Y.

BABBIT METAL.

Ryerson & Sons, Inc., Jos. T., St. Louis and New York.

BACKFILLERS.

Hanschfeger Corp., Milwaukee, Wis.
National Equipment Co. (Inslay, Parsons), Milwaukee, Wis.

BALLAST (Railroad.)

American Limestone Co., Knoxville, Tenn.

BANKS and TRUST COMPANIES.

Baltimore Commercial Bank, Balt., Md.
Baltimore Trust Co., Baltimore, Md.
Bank of New York & Trust Co., New York City.
First and Merchants National Bank, Richmond, Va.
Provident Savings Bank & Trust Co., Cincinnati, Ohio.

BARGES (Steel.)

American Bridge Co., New York, N. Y.
McClintic-Marshall Co., Pittsburgh, Pa.

BARS (Steel, Rounds, Flats, Hexagon and Squares.)

Carnegie Steel Co., Pittsburgh, Pa.
Connors Steel Co., Birmingham, Ala.
Gulf States Steel Co., Birmingham, Ala.
Ingalls Iron Works Co., Birmingham.
Knoxville Iron Co., Knoxville, Tenn.
Ryerson & Son, Inc., Jos. T., St. Louis and New York.
Sweet's Steel Corp., Williamsport, Pa.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.
Timken Roller Bearing Co., Canton, O.

Virginia Bridge & Iron Co., Roanoke, Va. Youngstown Sheet & Tube Co., Youngstown, Ohio.

BATTERIES (Storage.)

Electric Storage Battery Co., Phila., Pa.

BEAMS, CHANNELS, ANGLES.

Belmont Iron Works, Philadelphia, Pa.
Carnegie Steel Co., Pittsburgh, Pa.

Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Ingalls Iron Works Co., Birmingham.
Jones & Laughlin Steel Corp., Pittsburgh, Pa.

Ryerson & Son, Inc., Jos. T., St. Louis and New York.

Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

Virginia Bridge & Iron Co., Roanoke, Va.

BEARINGS (Anti-friction.)

Timken Roller Bearing Co., Canton, Ohio.

—(Roller.)

Timken Roller Bearing Co., Canton, Ohio.

BELT (Chain.)

Diamond Chain & Mfg. Co., Indianapolis.

—(Leather, Canvas, Rubber.)

Charlotte Leather Belting Co., Charlotte, N. C.

—Dressing.

Charlotte Leather Belting Co., Charlotte, N. C.

DIXON CRUCIBLE CO.

Dixon Crucible Co., Jos., Jersey City, N. J.

—Fasteners.

Flexible Steel Lacing Co., Chicago, Ill.

—Lacing (Steel Hinges.)

Flexible Steel Lacing Co., Chicago, Ill.

BELT CONVEYORS.

Barber-Greene Co., Aurora, Ill.

BILLETS (Basic Open Hearth.)

Gulf States Steel Co., Birmingham, Ala.

Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

BINS (Steel Loading.)

Blaw-Knox Co., Pittsburgh, Pa.

Butler Bin Co., Waukesha, Wis.

BLASTING POWDER and Accessories.

Du Pont de Nemours & Co., E. I., Wilmington, Del.

BLINDS (Venetian and Awning.)

Wilson Corp., The J. G., New York.

BLOCKS (Chain.)

Wright Mfg. Co., Bridgeport, Conn.

—(Friction.)

Palmer Asbestos & Rubber Corp., Chicago.

BOILER REPAIRS.

Finnigan Co., Inc., J. J., Atlanta, Ga.

BOILERS (New.)

Babcock & Wilcox Co., The, New York.

Charleston Dry Dock & Machine Co., Charleston, S. C.

Chattanooga Boiler & Tank Co., Chattanooga, Tenn.

Cole Mfg. Co., R. D., Newnan, Ga.

Combustion Engr. Corp., New York, N. Y.

Hedges Walsh Weldner Co., Chattanooga, Tenn.

Lombard Iron Works & Supply Co., Augusta, Ga.

Lookout Boiler & Mfg. Co., Chattanooga, Tenn.

Schofield's Sons Co., J. S., Macon, Ga.

Titusville Iron Works Co., Titusville, Pa.

—(Oil.)

Babcock & Wilcox Co., New York.

—(Scotch Marine.)

Lookout Boiler & Mfg. Co., Chattanooga, Tenn.

—(Used.)

Delta Equipment Co., Philadelphia, Pa.

O'Brien Machinery Co., Philadelphia, Pa.

Randall Machinery Co., The, Cincinnati, O.

Zelnicker Supply Co., W. A., St. Louis.

BOILER SETTINGS.

Babcock & Wilcox Co., New York.

—Tubes.

Babcock & Wilcox Co., New York.

National Tube Co., Pittsburgh, Pa.

Ryerson & Son, Inc., Jos. T., St. Louis and New York.

—Tubes (Charcoal, Iron.)

Reading Iron Co., Reading, Pa.

BOLTS, RIVETS, STUDS, WASHERS.

Bethlehem Steel Co., Bethlehem, Pa.

Oliver Iron & Steel Corp., Pittsburgh, Pa.

Progressive Mfg. Co., Torrington, Conn.

BUILDERS and Contractors.

Copper Co., Inc., The John W., Richmon, Va.

Lockwood Greene Engrs., Inc., Boston.

Moyer Co., Tilghman, Allentown, Pa.

Thompson & Bros., T. C., Charlotte, N. C.

United Engineers & Constructors, Phila.

White Engineering Corp., J. G., New York.

BUILDINGS (Industrial.)

Belmont Iron Works, Philadelphia, Pa.

Blaw-Knox Co., Pittsburgh, Pa.

Russell, Burdsall & Ward Bolt & Nut Co.,

Port Chester, N. Y.

Ryerson & Son, Inc., Jos. T., St. Louis and New York.

Virginia Bridge & Iron Co., Roanoke, Va.

—(Track.)

Sweet's Steel Co., Williamsport, Pa.

BUCKLEHEADS.

Shore-Line Builders, Inc., Jacksonville, Fla.

Snare Corp., Frederick, New York, N. Y.

BULLDOZERS.

Trackson Co., Milwaukee, Wis.

BURLAP.

Fulton Bag & Cotton Mills, Atlanta, Ga.

BUSINESS METHODS.

Ernst & Ernst, New York, N. Y.

CABLE (Elevator.)

American Steel & Wire Co., Chicago, Ill.

Roebing's Sons Co., John A., Trenton, N. J.

—(Stud Link.)

Woodhouse Chain Works, Trenton, N. J.

—and Wire (Electric.)

American Steel & Wire Co., Balto, Md.

Roebing's Sons Co., John A., Trenton, N. J.

Western Electric Co., New York City.

CALCIUM CHLORIDE.

Grasselli Chemical Co., Inc., Birmingham.

CAN and Box-Making Machinery (Tin.)

Bliss Co., E. W., Brooklyn, N. Y.

CANNING MACHINERY.

Robins & Co., A. K., Baltimore, Md.

CANVAS.

Fulton Bag & Cotton Mills, Atlanta, Ga.

CAR (Loaders and Unloaders.)

Barber-Greene Co., Aurora, Ill.

CARS (Dump, Industrial, Logging and Mine.)

Atlas Car & Mfg. Co., The, Cleveland, O.

Southern Iron & Equipment Co., Atlanta.

CASSIIONS (Foundations, Water Wells, etc.)

United Welding Co., Middletown, O.

CASTINGS (Alloy.)

Mountain State Steel Foundries, Parkersburg, W. Va.

—(Brass, Bronze and Aluminum.)

Richmond Foundry & Mfg. Co., Richmond, Va.

Savannah Mch. & Fdry. Co., Savannah, Ga.

—(Chilled Iron.)

Fulmer Lehigh Co., Fullerton, Penna.

—(Gray Iron.)

Fulmer Lehigh Co., Fullerton, Penna.

—(Coal.)

Owen Bucket Co., Cleveland, O.

—(Dredging, Excavating, Sewer, etc.)

Owen Bucket Co., The, Cleveland, Ohio.

Stuebner Iron Works, G. L., Long Island City, N. Y.

Williams Company, G. H., Erie, Pa.

—(Elevator.)

Hendrick Mfg. Co., Carbondale, Pa.

—(Material Handling.)

Owen Bucket Co., Cleveland, O.

—(Ore Handling.)

Owen Bucket Co., The, Cleveland, Ohio.

Stuebner Iron Works, G. L., Long Island City, N. Y.

—(Rehandling.)

Owen Bucket Co., Cleveland, O.

—(Sand and Gravel.)

Owen Bucket Co., Cleveland, O.

Williams Company, G. H., Erie, Pa.

BUILDERS and Contractors.

Copper Co., Inc., The John W., Richmon, Va.

Lockwood Greene Engrs., Inc., Boston.

Moyer Co., Tilghman, Allentown, Pa.

Thompson & Bros., T. C., Charlotte, N. C.

United Engineers & Constructors, Phila.

White Engineering Corp., J. G., New York.

CEMENT (Portland.)

Alpha Portland Cement Corp., Birmingham, Ala.

—Guns."

Cement-Gun Co., Inc., Allentown, Pa.

—Machinery.

Traylor Engr. & Mfg. Co., Allentown, Pa.

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CHAINS (Dredge, Quarry, Steam Shovel.)

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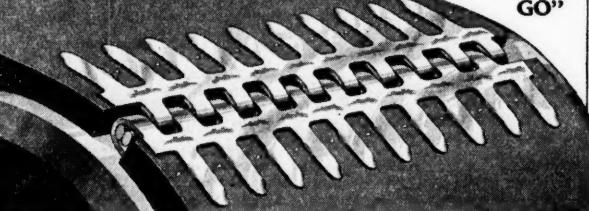


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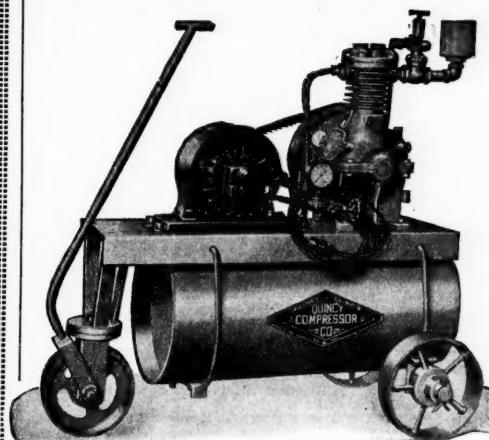
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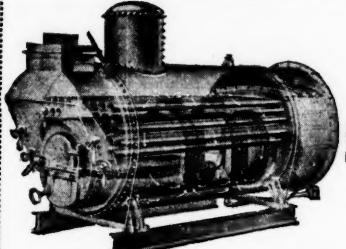
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Cleveland, Ohio

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 —(Silent Drive.) Diamond Chain & Mfg. Co., Indianapolis.
 —(Welded.) Woodhouse Chain Works, Trenton, N. J.

CHAIRS (Opera and Theatre.) Andrews Co., A. H. Chicago, Ill.

CHEMICALS. Davison Chemical Co., Baltimore, Md.
 Grassell Chemical Co., Inc., Birmingham.

CHEMISTS, CHEMICAL ENGINEERS (Analytical.) Barrow-Agee Laboratories, Memphis, Tenn.
 Froehling & Robertson, Inc., Richmond, Va.

Hunt Co., Robert W. Chicago, Ill.
 Longdale Laboratories, Inc., Richmond, Va.
 Meigs, Bassett & Slaughter, Phila., Pa.
 Moss, Jr., W. Wade, Columbus, Ga.
 Picard Laboratories, Birmingham, Ala.
 Pittsburgh Testing Laboratories, Pittsburgh, Pa.
 Southwestern Laboratories, Fort Worth, Tex.
 Stillman & Van Sielen, New York.

—(Consulting, Paper Industry.) Froehling & Robertson, Inc., Richmond, Va.

CHIMNEYS (Concrete.) Rust Engineering Co., Birmingham, Ala.

—(Radial Brick.) Northwestern Chimney Constr. Co., Cleveland, O.
 Rust Engineering Co., Birmingham, Ala.

—Inspected and Repaired. Northwestern Chimney Constr. Co., Cleveland, O.

CHLORIDE ACCUMULATOR. Electric Storage Battery Co., Phila., Pa.

CHUTES. Cutler Mail Chute Co., Rochester, N. Y.

CIRCUIT BREAKERS. Westinghouse Electric & Mfg. Co., E. Pittsburgh, Pa.

CLOCKS (Watchman's Portable.) Davis-Paradis Watchman's Clock Corp., New York, N. Y.

CLOTH (Wire.) Newark Wire Cloth Co., Newark, N. J.

CLUTCHES (Friction.) Caldwell Co., Inc., W. E., Louisville, Ky.

COAL (Bituminous.) Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

—(and Ash-Handling Mch.) Industrial Brownhoist Corp., Cleveland, O.
 Northwest Engineering Co., Chicago.

—Jigs. Steward Machine Co., Chas. C., Birmingham, Ala.

—Tipples. American Bridge Co., New York, N. Y.
 Virginia Bridge & Iron Co., Roanoke, Va.

—Washers. Steward Machine Co., Chas. C., Birmingham, Ala.

COATINGS (Protective.) Headley Emulsified Products Co., Philadelphia, Pa.

COCKS (Service.) Merco Nordstrom Valve Co., San Francisco, Calif.

COKE. Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

COLUMNS (Cast Iron.) U. S. Pipe & Fdry. Co., Burlington, N.J.

CONCRETE (Block Machinery.) Blystone Mfg. Co., Cambridge Springs, Pa.

—Construction (Reinforced.) Cement-Gun Co., Inc., Allentown, Pa.
 Gun Construction Co., Chicago.
 Rust Engineering Co., Birmingham, Ala.

—Floor Slabs. Federal-American Cement Tile Co., Chicago.

—Mixers. Blystone Mfg. Co., Cambridge Springs, Pa.
 Dunning & Bachert Press Co., Inc., Syracuse, N. Y.

Jaeger Machine Co., Columbus, Ohio.

—Pipe Machinery (See Pipe Machinery, Concrete.)

—Placing Equipment. National Equipment Corp. (Insey Division), Milwaukee, Wis.

—Roofing Tile. Federal-American Cement Tile Co., Chicago.

CONDENSERS. Manistee Iron Works Co., Manistee, Mich.
 Westinghouse Electric & Mfg. Co., E. Pittsburgh, Pa.

CONDUITS (Electric, Interior, Steel.) Western Electric Co., New York, N. Y.
 Youngstown Sheet & Tube Co., Youngstown, Ohio.

CONTRACTORS (Bridge.) Hardaway Contracting Co., Columbus, Ga.
 Kansas City Bridge Co., Kansas City, Mo.
 Snare Corp., Frederick, New York.

—(Drainage and Dredging.) Arundel Corp., The, Baltimore, Md.
 Atlantic Gulf and Pacific Co., New York.

—(Electrical.) Virginia Engineering Co., Inc., Newport News, Va.
 Walker Electrical Co., Atlanta, Ga.
 Warner Service Co., Knoxville, Tenn.
 Webb Electric Co., Anderson, S. C.

—(Foundations and Dams.) Snare Corp., Frederick, New York, N. Y.

—(General.) Blair, Algernon, Montgomery, Ala.
 Burkes, Inc., J. V. & R. T., New Orleans.
 Cornell Young Co., Inc., Macon, Ga.
 Copewell Co., Inc., John W., Richmond, Va.
 Fiske-Carter Constr. Co., Greenville, S. C.
 Gridley Constr. Co., Lee A., Knoxville, Tenn.
 Saville, Inc., Allen J., Richmond, Va.
 Smallman-MacQueen Construction Co., Birmingham.

Snare Corp., Frederick, New York, N. Y.
 Thompson & Bros., T. C., Charlotte, N. C.
 Tucker & Laxton, Charlotte, N. C.
 White Engineering Corp., J. G., New York.

—(Industrial Buildings.) Blair, Algernon, Montgomery, Ala.
 Copewell Co., Inc., John W., Richmond, Va.
 Fiske-Carter Constr. Co., Greenville, S. C.
 Lockwood Green Engrs., Inc., Boston.
 Smallman-MacQueen Construction Co., Birmingham.

Snare Corp., Frederick, New York, N. Y.
 Thompson & Bros., T. C., Charlotte, N. C.
 Virginia Engineering Co., Inc., Newport News, Va.
 White Engineering Corp., J. G., New York.

—(Mill Village.) Hornbuckle Contracting Co., Atlanta, Ga.

—(Power Piping.) Pittsburgh Piping & Equip. Co., Pittsburgh, Pa.
 Poe Piping & Heating Co., Greenville, S. C.

—(Power Plants.) Snare Corp., Frederick, New York, N. Y.
 Virginia Engineering Co., Inc., Newport News, Va.

—(Railroad.) Cornell-Young Co., Inc., Macon, Ga.

—(Reinforced Concrete.) Blair, Algernon, Montgomery, Ala.
 Cement Gun Construction Co., Chicago.
 Gunite Conc. & Constr. Co., Kansas City.
 Tucker & Laxton, Charlotte, N. C.

—(Road and Street Paving.) Fiske-Carter Constr. Co., Greenville, S. C.
 Gridley Constr. Co., Lee A., Knoxville, Tenn.
 Hornbuckle Contracting Co., Atlanta, Ga.
 McCrary Co., J. B., Atlanta, Ga.
 Virginia Engineering Co., Inc., Newport News, Va.

—(Sewerage and Waterworks.) Gridley Constr. Co., Lee A., Knoxville, Tenn.
 Hardaway Contracting Co., Columbus, Ga.
 Hornbuckle Contracting Co., Atlanta, Ga.
 McCrary Co., The J. B., Atlanta, Ga.
 Snare Corp., Frederick, New York, N. Y.
 Tucker & Laxton, Charlotte, N. C.
 Virginia Engineering Co., Inc., Newport News, Va.

—(Sprinkler System.) Poe Piping & Heating Co., Greenville, S. C.

—(Machinery and Supplies.) (Used.) Adams Mch. Co., T. G., Savannah, Ga.
 Lima Excavator Sales Agency, Lima, Ohio.
 Marine Metal & Supply Co., New York.

CONTRACT WORK WANTED. (See following classifications:)
 Boiler and Tank Work.
 Castings.
 Forgings.
 Foundries and Machine Shops.
 Machinery (Special.)
 Ornamental Iron Work.
 Patterns.
 Sheet Metal Work.
 Structural Steel and Iron.
 Welding Plants.

CONVEYING AND ELEVATING MACHINERY. Barber-Green Co., Aurora, Ill.
 Fairfield Engr. Co., Marion, Ohio.
 Gruendler Crusher & Pulverizer Co., St. Louis, Mo.
 Universal Crusher Co., Cedar Rapids, Ia.

CONVEYORS (Portable, Power-Driven.) Clark Tractor Co., Battle Creek, Mich.
 Fairfield Engr. Co., Marion, Ohio.

COOLING AND HEATING UNITS (Fan.) Niagara Blower Co., New York, N. Y.

COTTON GIN MACHINERY. Continental Gin Co., Birmingham, Ala.

COUPLINGS. Goldens' Fdy. & Mch. Co., Columbus, Ga.

—(Flexible.) Diamond Chain & Mfg. Co., Indianapolis, Ind.

CRANES. Industrial Brownhoist Corp., Cleveland, O.
 National Equipment Co. (Insey, Koehring, Parsons), Milwaukee, Wis.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Tew Shovel Co., The, Lorain, Ohio.

—(Cantilever, Gantry.) Bedford Foundry & Machine Co., Bedford, Ind.

—(Crawler.) Harnischfeger Corp., Milwaukee, Wis.
 Industrial Brownhoist Corp., Cleveland, O.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.

—(Crawling Tractor.) Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Tew Shovel Co., The, Lorain, Ohio.

—(Electric Traveling.) Bedford Foundry & Machine Co., Bedford, Ind.

—(Full Circle Steam and Electric.) Harnischfeger Corp., Milwaukee, Wis.

Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Tew Shovel Co., The, Lorain, Ohio.

—(Gasoline.) Harnischfeger Corp., Milwaukee, Wis.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Tew Shovel Co., The, Lorain, Ohio.

—(Locomotive.) Bucyrus-Erie Co., So., Milwaukee, Wis.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Tew Shovel Co., The, Lorain, Ohio.

—(Material Handling.) Bucyrus-Erie Co., So., Milwaukee, Wis.
 Industrial Brownhoist Corp., Cleveland, O.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Tew Shovel Co., The, Lorain, Ohio.

—(Travelling Hand Power.) Wright Mfg. Co., Bridgeport, Conn.

CRAWLERS (Tractor.) Trackson Co., Milwaukee, Wis.

CREOSOTED MATERIALS. Amer. Creosote Wks., Inc., New Orleans.
 Atlantic Creosoting Co., Norfolk, Va.

CREOSOTED TIMBER. Amer. Creosote Wks., Inc., New Orleans.
 Ayer & Lord Tie Co., Inc., Chicago.

CREOSOTE OIL. Amer. Creosote Wks., Inc., New Orleans.
 Ayer & Lord Tie Co., Inc., Chicago.

CREOSOTING (Wood Material.) Amer. Creosote Wks., Inc., New Orleans.
 Amer. Creosoting Co., Inc., Louisville, Ky.
 Atlantic Creosoting Co., Norfolk, Va.
 Brown Wood Preserving Co., Louisville, Ky.
 Eppinger & Russell Co., New York, N. Y.
 Gulf States Creos. Co., Hattiesburg, Miss.

CROSS-ARMS (Creosoted.) Amer. Creosote Wks., Inc., New Orleans.
 Amer. Creosoting Co., Inc., Louisville, Ky.
 Atlantic Creosoting Co., Norfolk, Va.

CROSS-TIES (Creosoted.) Amer. Creosote Wks., Inc., New Orleans.
 Amer. Creosoting Co., Inc., Louisville, Ky.
 Atlantic Creosoting Co., Norfolk, Va.

CRUSHED STONE (Road Concrete and Ballast.) American Limestone Co., Knoxville, Tenn.
 Boxley & Co., W. W., Roanoke, Va.

CRUSHERS (Coal and Coke.) Fuller Lehigh Co., Fullerton, Pa.
 Steward Machine Co., Chas. C., Birmingham, Ala.

—(Rock.) Diamond Iron Works, Minneapolis, Minn.
 Gruendler Crusher & Pulverizer Co., St. Louis, Mo.
 Universal Crusher Co., Cedar Rapids, Ia.

CRUSHING and Pulverizing Machinery. Allis Chalmers Mfg. Co., Milwaukee, Wis.
 Diamond Iron Works, Minneapolis, Minn.
 Fuller Lehigh Co., Fullerton, Pa.
 Universal Crusher Co., Cedar Rapids, Ia.

CULVERT PIPE (Cast Iron.) Amer. Cast Iron Pipe Co., Birmingham.
 Cast Iron Pipe Research Assn., Chicago.
 National Cast Iron Pipe Co., Birmingham, N. J.

—(Corrugated Metal.) American Sheet & Tin Plate Co., Pittsburgh, Pa.

CURB PROTECTOR. (Steel Bar.) Goldens' Fdy. & Mch. Co., Columbus, Ga.

Truscon Steel Co., Youngstown, Ohio.

CYLINDERS (Compressed Air, Gas.) National Tube Co., Pittsburgh, Pa.

—(Creosoting.) Alco Products, Inc., New York, N. Y.

DAMPROOFING. Headley Emulsified Products Co., Philadelphia, Pa.

DESKS (School.) Andrews Co., A. H. Chicago, Ill.

DITCHING MACHINERY. Barber-Green Co., Aurora, Ill.
 Bay City Shovels, Inc., Bay City, Mich.
 Harnischfeger Corp., Milwaukee, Wis.
 Industrial Brownhoist Corp., Cleveland, O.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.

DOORS (Bronze.) Michaels Art Bronze Co., Covington, Ky.

—(Fire.) Merchant & Evans Co., Philadelphia, Pa.

—(Fireproof, Air Chamber.) Wilson Corp., The J. G., New York.

—(Revolving.) Michaels Art Bronze Co., Covington, Ky.

—(Rolling, Steel and Wood.) Wilson Corp., The J. G., New York.

—(Steel.) Truscon Steel Co., Youngstown, Ohio.

—(Vault.) York Safe & Lock Co., York, Penna.

DRAFTSMEN'S SUPPLIES. Weber Co., Inc., F., Philadelphia, Pa.

DRAGLINE EXCAVATORS. Bucyrus-Erie Co., So., Milwaukee, Wis.
 Harnischfeger Corp., Milwaukee, Wis.
 National Equipment Corp. (Koehring, Insey) Milwaukee, Wis.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Tew Shovel Co., The, Lorain, Ohio.

DREDGES (Dipper, Elevator, Hydraulic.) Bay City Shovels, Inc., Bay City, Mich.
 Bucyrus-Erie Co., So., Milwaukee, Wis.

DREDGING (River and Harbor Improvement.) Arundel Corp., The, Baltimore, Md.
 Atlantic Gulf and Pacific Co., New York.

DRILLING CONTRACTORS. Kennedy-Rieger Drilling Co., New York City.
 Mott Core Drilling Co., Huntington, W. Va.

Myers & Sons, J. L., Denton, Texas.
 Pennsylvania Drilling Co., Pittsburgh, Pa.

Southern Drilling Co., Saltville, Va.
 Sprague & Henwood, Inc., Scranton, Pa.

DRILLS (Oil and Artesian Well.) Virginia Machinery & Well Co., Inc., Richmond, Va.

DRINKING FOUNTAINS. Rundle-Spence Mfg. Co., Milwaukee, Wis.

DROP-FORGING MACHINERY. Bliss Co., E. W., Brooklyn, N. Y.

DRYERS (Gravel and Sand.) Ripley Fdy. & Mch. Co., Ripley, Ohio.

DRYING MACHINERY. Chicago Bridge & Iron Wks., Birmingham.

DUSTPROOFING (Concrete.) Sonneborn Sons, Inc., L., New York.

DYNAMITE (Industrial and Agricultural.) Du Pont De Nemours & Co., Inc., E. I. du Pont de Nemours & Co., Inc., E. I. Wilmington, Del.

ECONOMIZERS (Fuel.) Babcock & Wilcox Co., New York.

ECONOMISTS (Administrative.) Brookmire Economic Service, New York City.

ELECTRICAL Instruments and Supplies. General Electric Co., Schenectady, N. Y.
 Western Electric Co., New York City.

—Machinery (Generators, Motors, etc., New.) Allis-Chalmers Mfg. Co., Milwaukee, Wis.
 Fairbanks, Morse & Co., Chicago, Ill.
 General Electric Co., Schenectady, N. Y.

—Machinery (Generators, Motors, etc., Used.) Arthur S., St. Louis, Mo.
 Rockford Power Mch. Co., Rockford, Ill.
 Westinghouse Electric & Mfg. Co., E. Pittsburgh, Pa.

—Machinery (Generators, Motors, etc., Used.) Delta Equipment Co., Philadelphia, Pa.
 Electric Service Co., Cincinnati, Ohio.
 General Electric Co., Schenectady, N. Y.

O'Brien Machinery Co., The, Phila., Pa.
 Randle Machinery Co., The Cincinnati, O.
 Rockford Power Mch. Co., Rockford, Ill.

—Machinery Repairing (Motors, Generators, etc.) Electric Service Co., Cincinnati, Ohio.

ELECTRIC LIGHTING.
Westinghouse Lamp Co., New York City.

ELECTRIC SHOVELS (See Shovels.)

ELEVATORS (Electric.)
American Elevator & Machine Co., Inc., Louisville, Ky.

Millner Co., St. Louis, Mo.

—(Hand and Belt Power.)

American Elevator & Machine Co., Inc., Louisville, Ky.

Millner Co., St. Louis, Mo.

—(Hydraulic.)

American Elevator & Machine Co., Inc., Louisville, Ky.

ENGINEERS (Airports.)

Lockwood Greene Engrs., Inc., New York.

MacElwee & Crandall, Inc., Cambridge, Mass.

Shaw Co., Russell B., St. Louis, Mo.

—(Appraisal.)

Lockwood Greene Engrs., Inc., New York.

Main, Inc., Chas. T., Boston, Mass.

May, Inc., Geo. S., Chicago, Ill.

Sanderson & Porter, New York, N. Y.

Wadleigh & Bailey, Washington, D. C.

White Engineering Corp., J. G., New York.

Whitman, Requardt & Smith, Balto., Md.

Wiedeman & Singleton, Inc., Atlanta, Ga.

—(Aviation.)

Shaw Co., Russell B., St. Louis, Mo.

—(Bridge.)

Freeland Roberts & Co., Nashville, Tenn.

Gardner & Howe, Memphis, Tenn.

Greiner & Co., J. E., Baltimore, Md.

Hardaway Contracting Co., Columbus, Ga.

Hedrick, Inc., Ira G., Hot Springs, Nat'l. Park, Ark.

Southern Erectors, Inc., Tampa, Fla.

Steel & Lebby, Knoxville, Tenn.

Turner, C. A. P., Minneapolis, Minn.

Virginia Bridge & Iron Co., Roanoke, Va.

Wheeler, Walter H., Minneapolis, Minn.

Whitman, Requardt & Smith, Balto., Md.

Wiley & Wilson, Lynchburg, Va.

—(Chemical.)

Barrow-Agee Laboratories, Memphis, Tenn.

Dow & Smith, New York, N. Y.

Moss, Jr., W. Wade, Columbus, Ga.

Picard Laboratories, Birmingham, Ala.

Pittsburgh Testing Laboratories, Pitts-

burgh, Pa.

—(Civil.)

Charlton & Davis, Ft. Lauderdale, Fla.

Gardner & Howe, Memphis, Tenn.

Greiner & Co., J. E., Baltimore, Md.

Harrub Engr. Co., C. N., Nashville, Tenn.

Hedrick, Inc., Ira G., Hot Springs, Nat'l. Park, Ark.

Willis and Youngberg, Jacksonville, Fla.

Huey, S. E., Monroe, La.

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Main, Inc., Chas. T., Boston, Mass.

Steel & Lebby, Knoxville, Tenn.

White Engineering Corp., J. G., New York.

Whitman, Requardt & Smith, Balto., Md.

Wiley & Wilson, Lynchburg, Va.

—(Consulting.)

Barstow & Co., W. S., New York City.

Charlton & Davis, Ft. Lauderdale, Fla.

Converse & Co., J. B., Mobile, Ala.

Cramer, Robert, Milwaukee, Wis.

Engineering Service Corp., Houston, Tex.

Goder, Joseph, Chicago, Ill.

Harza Engineering Co., Chicago.

Hedrick, Inc., Ira G., Hot Springs, Nat'l. Park, Ark.

Lockwood Greene Engrs., Inc., New York.

Main, Inc., Chas. T., Boston, Mass.

Smith, Elroy G., Augusta, Ga.

Stillman & Van Scien, New York, N. Y.

United Engineers & Constructors, Phila.

Wadleigh & Bailey, Washington, D. C.

White Engineering Corp., J. G., New York.

Whitman, Requardt & Smith, Balto., Md.

Wiedeman & Singleton, Inc., Atlanta, Ga.

Wiley & Wilson, Lynchburg, Va.

—(Cost.)

Ernst & Ernst, New York, N. Y.

May, Inc., Geo. S., Chicago, Ill.

—(Dams.)

Alpaugh & Sons, Chas. W., Manassas, Va.

Barstow & Co., W. S., New York City.

Bylesby Engineering and Management Corp., Chicago, Ill.

Gardner & Howe, Memphis, Tenn.

Hardaway Contracting Co., Columbus, Ga.

Harza Engineering Co., Chicago.

Hedrick, Inc., Ira G., Hot Springs, Nat'l. Park, Ark.

Lee, William S., Charlotte, N. C.

Main, Inc., Chas. T., Boston, Mass.

Stirrin & Co., J. E., Greenville, S. C.

Tucker & Laxton, Charlotte, N. C.

Wheeler, Walter H., Minneapolis, Minn.

White Engineering Corp., J. G., New York.

Wiley & Wilson, Lynchburg, Va.

—(Drainage and Irrigation.)

Cramer, Robert, Milwaukee, Wis.

Hill and Youngberg, Jacksonville, Fla.

Huey, S. E., Monroe, La.

—(Efficiency.)

Ernst & Ernst, New York, N. Y.

Whitman, Requardt & Smith, Balto., Md.

—(Electrical.)

Engineering Service Corp., Houston, Tex.

Hoosier Engineering Co., Chicago, Ill.

Lee, William S., Charlotte, N. C.

Lockwood Greene Engrs., Inc., New York.

Main, Inc., Chas. T., Boston, Mass.

Sanderson & Porter, New York, N. Y.

Tucker & Laxton, Charlotte, N. C.

Webb Electric Co., Anderson, S. C.

White Co., Gilbert C., Durham, N. C.

Wiley & Wilson, Lynchburg, Va.

—(Electric-Light and Power Plants.)

Barstow & Co., W. S., New York City.

Bylesby Engineering and Management Corp., Chicago, Ill.

Cramer, Robert, Milwaukee, Wis.

Lee, William S., Charlotte, N. C.

Main, Inc., Chas. T., Boston, Mass.

Sanderson & Porter, New York, N. Y.

Scofield Engineering Co., Philadelphia.

Tucker & Laxton, Charlotte, N. C.

White Engineering Corp., J. G., New York.

White Co., Gilbert C., Durham, N. C.

Wiley & Wilson, Lynchburg, Va.

—(Flood Control.)

Harza Engineering Co., Chicago.

—(Gas.)

Bylesby Engineering and Management Corp., Chicago, Ill.

Huey, S. E., Monroe, La.

—(Geological.)

De Kalb, Courtenay, New York City.

Froehling & Robertson, Richmond, Va.

Moss, Jr., W. Wade, Columbus, Ga.

Wadleigh & Bailey, Washington, D. C.

—(Harbor Improvements.)

Engineering Service Corp., Houston, Tex.

—(Heating.)

Wiley & Wilson, Lynchburg, Va.

—(Hydraulic.)

Alpaugh & Sons, Chas. W., Manassas, Va.

Barstow & Co., W. S., New York City.

Bylesby Engineering & Management Corp., Chicago, Ill.

Harza Engineering Co., Chicago.

Lee, William S., Charlotte, N. C.

Main, Inc., Chas. T., Boston, Mass.

Sanderson & Porter, New York, N. Y.

Scofield Engineering Co., Philadelphia.

Sirrine & Co., J. E., Greenville, S. C.

Tucker & Laxton, Charlotte, N. C.

White Engineering Corp., J. G., New York.

Whitman, Requardt & Smith, Balto., Md.

Wiley & Wilson, Lynchburg, Va.

—(Ice and Refrigerating.)

Engineering Service Corp., Houston, Tex.

—(Industrial Plants.)

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Consoer, Older & Quinlan, Inc., Chicago.

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Gardner & Howe, Memphis, Tenn.

Greiner & Co., J. E., Baltimore, Md.

Hills and Youngberg, Jacksonville, Fla.

Lockwood Greene Engrs., Inc., New York.

MacElwee & Crandall, Inc., Cambridge, Mass.

Main, Inc., Chas. T., Boston, Mass.

Preacher & Co., Inc., G. Lloyd, Atlanta.

Sanderson & Porter, New York, N. Y.

Scofield Engineering Co., Philadelphia.

Sirrine & Co., J. E., Greenville, S. C.

Turner, C. A. P., Minneapolis, Minn.

United Engineers & Constructors, Phila.

Wiley & Wilson, Lynchburg, Va.

—(Industrial Survey.)

Converse & Co., J. B., Mobile, Ala.

Lockwood Greene Engrs., Inc., New York.

Wadleigh & Bailey, Washington, D. C.

—(Inspection and Tests.)

Barrow-Agee Laboratories, Memphis, Tenn.

Conard, William R., Burlington, N. J.

Cramer, Robert, Milwaukee, Wis.

Dow & Smith, New York, N. Y.

Froehling & Robertson, Inc., Richmond.

Va.

Hunt Co., Robert W., Chicago, Ill.

McCallum Inspection Co., Norfolk, Va.

Moss, Jr., W. Wade, Columbus, Ga.

Picard Laboratories, Birmingham, Ala.

Pittsburgh Testing Laboratories, Pitts-

burgh, Pa.

Southwestern Laboratories, Ft. Worth, Tex.

—(Lighting.)

Bylesby Engineering & Management Corp., Chicago, Ill.

Converse & Co., J. B., Mobile, Ala.

Westinghouse Lamp Co., New York City.

Wiley & Wilson, Lynchburg, Va.

—(Mechanical.)

Charlton & Davis, Ft. Lauderdale, Fla.

Engineering Service Corp., Houston, Tex.

Goder, Joseph, Chicago, Ill.

Harza Engineering Co., Chicago.

Hedrick, Inc., Ira G., Hot Springs, Nat'l. Park, Ark.

Lee, William S., Charlotte, N. C.

Main, Inc., Chas. T., Boston, Mass.

Stirrin & Co., J. E., Greenville, S. C.

Tucker & Laxton, Charlotte, N. C.

Wheeler, Walter H., Minneapolis, Minn.

White Engineering Corp., J. G., New York.

Wiley & Wilson, Lynchburg, Va.

—(Mining. See Engineers, Ge-

ological.)

—(Municipal.)

Charlton & Davis, Ft. Lauderdale, Fla.

Engineering Service Corp., Houston, Tex.

Lee, William S., Charlotte, N. C.

Lockwood Greene Engrs., Inc., New York.

Main, Inc., Chas. T., Boston, Mass.

Sanderson & Porter, New York, N. Y.

—(Paving and Roads.)

Dow & Smith, New York, N. Y.

Freeland, Roberts & Co., Nashville, Tenn.

Harrub Engr. Co., C. N., Nashville, Tenn.

Hill and Youngberg, Jacksonville, Fla.

Huey, S. E., Monroe, La.

—(Printing and Newspaper

Plants.)

Lockwood Greene Engrs., Inc., New York.

Tucker & Laxton, Charlotte, N. C.

White Co., Gilbert C., Durham, N. C.

Wiley & Wilson, Lynch

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—(Water-Cooled.)
Combustion Engr. Corp., New York City.
Fuller Lehigh Co., Fullerton, Pa.

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Bessemer Galvanizing Works, Birmingham, Ala.
Birmingham Galvanizing Co., Birmingham, Ala.
Cattle & Bros., Jos. P., Philadelphia, Pa.
—Steel and Iron.
American Rolling Mill Co., Middletown, O.
American Sheet & Tin Plate Co., Pittsburgh, Pa.
Granite City Steel Co., Granite City, Ill.
GALVANIZING (Cadmium Plating.)
Birmingham Galvanizing Co., Birmingham, Ala.
—(Hot Dip.)
Bessemer Galvanizing Works, Birmingham.
Birmingham Galvanizing Co., Birmingham, Ala.
Cattle & Bros., Jos. P., Philadelphia, Pa.
Newport News Shipbuilding & Dry Dock Co., Newport News, Va.

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Chicago Bridge & Iron Wks., Birmingham.
—Producers
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Gulf Refining Co., Pittsburgh, Pa.

GASOLINE SHOVELS (See Shovels.)

GATES.
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DeLaval Steam Turbine Co., Trenton, N.J.
Earle Gear & Machine Co., Phila., Pa.
General Electric Co., Schenectady, N. Y.
—(Worm Reduction.)
DeLaval Steam Turbine Co., Trenton, N.J.

GENERATORS, MOTORS (New.)
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Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.
—(Used.)
O'Brien Machinery Co., Phila., Pa.
Randall Machinery Co., The, Cincinnati, O.

GEOLOGISTS. (See Engineers Geological.)

GLASS (Art.)
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—(Plate.)
Hires Turner Glass Co., Philadelphia, Pa.
Southwestern Sheet Glass Co., Okmulgee, Okla.

—(Window.)
Hires Turner Glass Co., Philadelphia, Pa.
Pittsburgh Plate Glass Co., Pittsburgh.
Southwestern Sheet Glass Co., Okmulgee, Okla.

—(Wire.)
Hires Turner Glass Co., Philadelphia, Pa.
Southwestern Sheet Glass Co., Okmulgee, Okla.

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Adams Co., J. D., Indianapolis, Ind.
Caterpillar Tractor Co., Peoria, Ill.
—(One Man Motor.)
Adams Co., J. D., Indianapolis, Ind.
—(Leaning Wheel Rond.)
Adams Co., J. D., Indianapolis, Ind.

GRAPHITE.
Dixon Crucible Co., Jos., Jersey City, N.J.

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Schofield's Sons Co., J. S., Macon, Ga.

GRATING (Area, Flooring, Sidewalk.)
Blaw-Knox Co., Pittsburgh, Pa.
Hendrick Mfg. Co., Carbondale, Pa.
Kerlow Steel Flooring Co., Jersey City, N. J.

GRAVEL (Roofing and Road.)
American Limestone Co., Knoxville, Tenn.
Arundel Corp., The, Baltimore, Md.
Boxley & Co., W. W., Roanoke, Va.
Friend & Co., Inc., Petersburg, Va.
Georgia Sand & Gravel Co., Augusta, Ga.

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Lunkenheimer Co., The, Cincinnati, O.

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Robertson Steel & Iron Co., W. F., Cincinnati, O.

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Cement-Gun Co., Inc., Allentown, Pa.
Cement Gun Construction Co., Chicago.
Gunite Constr. Co., Kansas City.
Gunite Constr. Co., New York City.
Rust Engineering Co., Birmingham, Ala.

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Ingalls Iron Works, Birmingham, Ala.

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Arundel Corp., Baltimore, Md.
Atlantic, Gulf & Pacific Co., New York.

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Honhorst Co., Jos., Cincinnati, O.

HEAT EXCHANGERS.
Alice Products, Inc., New York, N. Y.

HEATING APPARATUS (Engineers and Contractors.)
Poe Piping & Heating Co., Greenville, S. C.

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Wright Mfg. Co., Bridgeport, Conn.
—(Electric.)
Harnischfeger Corp., Milwaukee, Wis.
Street Bros. Mch. Wks., Chattanooga, Tenn.

HOOPS (Gasoline.)
Dake Engine Co., Grand Haven, Mich.
National Equipment Corp. (C. H. & E. Division), Milwaukee, Wis.
Street Bros. Mch. Wks., Chattanooga, Tenn.

—(Steam.)
Dake Engine Co., Grand Haven, Mich.
Street Bros. Mch. Wks., Chattanooga, Tenn.

HOOPS, Bands, etc. (Galvanized.)
Connors Steel Co., Birmingham, Ala.

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Butler Bin Co., Waukesha, Wis.

HOTELS.
Heiss Hotel Systems, St. Louis, Mo.
Southern Hotel, The, Baltimore, Md.

HOUSE MOVING.
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Niagara Blower Co., New York, N. Y.

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Ludlow Valve Mfg. Co., The, Troy, N. Y.
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Crisp County Power Commission, Cordele, Ga.
Georgia Power Co., Atlanta, Ga.
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INCORPORATORS.
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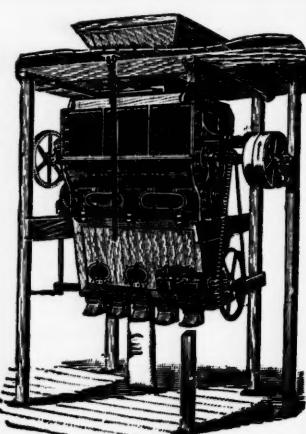
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Porter Co., H. K., Pittsburgh, Pa.

Whitcomb Locomotive Co., Rochelle, Ill.

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Southern Iron & Equipment Co., Atlanta.

Whitcomb Locomotive Co., Rochelle, Ill.

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Electric Service Co., Cincinnati, Ohio.

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O'Brien Machinery Co., The, Phila., Pa.

Partriage, Arthur S., St. Louis, Mo.

Randall Machinery Co., The, Cincinnati, O.

Zelnicker Supply Co., W. A., St. Louis.

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—(Working Machinery.)
 Bliss Co., E. W., Brooklyn, N. Y.

Ryerson & Son, Inc., Jos. T., St. Louis

and New York.

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 Lombard Iron Works & Supply Co., Augusta, Ga.

MIXERS.
 National Equipment Corp. (Koehring, T. L. Smith, Kwik-Mix), Milwaukee, Wis.

—(Asphalt.)

Erie Machine Shops, Erie, Pa.

—(Hot.)

Koehring Co., Milwaukee, Wis.

—(Mortar.)

Chain Belt Co., Milwaukee, Wis.

Jaeger Machine Co., Columbus, Ohio.

—(Plaster.)

Blystone Mfg. Co., Cambridge Springs, Pa.

Chain Belt Co., Milwaukee, Wis.

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Jaeger Machine Co., Columbus, Ohio.

MOTORS (Electric.)

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Armstrong & Bro. Co., R. S., Atlanta, Ga.

Fairbanks, Morse & Co., Chicago, Ill.

General Electric Co., Schenectady, N. Y.

Western Electric Co., New York City.

Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.

MOTOR TRUCKS.

International Harvester Co. of America, Inc., Chicago, Ill.

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Burdall & Ward Bolt & Nut Co., Port Chester, N. Y.

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Gulf Refining Co., Pittsburgh, Pa.

—(Cups.)

Lunkenheimer Co., The, Cincinnati, O.

ORE-WASHING MACHINERY.

Georgia Iron Works, Augusta, Ga.

ORNAMENTAL BRONZE WORK.

Heath Co., J. S., Waukegan, Ill.

Michaels Art Bronze Co., Covington, Ky.

—(Iron Work.)

Roanoke Iron & Bridge Wks., Roanoke, Va.

Sneed Architectural Iron Works, Louisville, Ky.

Southern Engineering Co., Charlotte, N. C.

PACKING (Asbestos, Metallic, Rubber, Leather, etc.)

Palmer Asbestos & Rubber Corp., Chicago.

PAINT (Metal Surfaces.)

Dixon Crucible Co., Jos., Jersey City, N. J.

—(Mill White, For Interior.)

Sonneborn Sons, Inc., L., New York.

—(Preservative.)

Cabot, Inc., Samuel, Boston, Mass.

PANELBOARDS.

Adam Electric Co., Frank, St. Louis.

PARTITIONS (Sectionfold, Rolling, Wood.)

Wilson Corp., The, J. G., New York.

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Buck, Sterling P., Washington, D. C.

Coleman, Watson E., Washington, D. C.

Eaton, Paul B., Charlotte, N. C.

Sassnett, Edward C., Washington, D. C.

Seymour & Bright, Washington, D. C.

PATTERNS (Drawing, etc.)

Haas Pattern Co., A. W., Atlanta, Ga.

PAVING BLOCKS (Creosoted Wood.)

American Creosote Works, New Orleans.

Brick.
National Paving Brick Asso., Washington, D. C.

Mixers.
National Equipment Corp. (Koehring, T. L. Smith), Milwaukee, Wis.

Plant (Asphalt).
Simplicity System Co., Chattanooga, Tenn.

PENSTOCKS.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Chicago Bridge & Iron Wks., Birmingham.
Newport News Shipbuilding & Dry Dock Co., Newport News, Va.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Smith Co., S. Morgan, York, Pa.

PERFORATED METAL.
Chicago Perforating Co., Chicago, Ill.
Erie Perforating Co., Rochester, N. Y.
Harrington & King Perf. Co., Chicago.
Herrick Mfg. Co., Carbondale, Pa.
Manhattan Perforated Metal Co., Inc., Long Island City, N. Y.
Mundt & Sons, Charles, Jersey City, N. J.

PETROLEUM REFINERS.
Gulf Refining Co., Pittsburgh, Pa.

PHOSPHATE ACID.
Davidson Chemical Co., Baltimore, Md.

PIG-IRON.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

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Amer. Creosote Wks., Inc., New Orleans.
Amer. Creosoting Co., Inc., Louisville.
Atlantic Creosoting Co., Norfolk, Va.
Ayer & Lord Tie Co., Inc., Chicago.

(Steel Sheet).
Carnegie Steel Co., Pittsburgh, Pa.
Hyman-Michaels Co., Chicago, Ill.
Jones & Laughlin Steel Corp., Pittsburgh, Pa.
Zehnlecker Supply Co., W. A., St. Louis.

(Yellow Pine).
Jackson Lumber Co., Lockhart, Ala.

PILLOW BLOCKS.
Goldens' Fdry. & Mch. Co., Columbus, Ga.

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Albert & Davidson Pipe Corp., Brooklyn, N. Y.
Albert Pipe Sup. Co., Inc., Brooklyn, N. Y.
Birmingham Boiler & Engr. Co., Birmingham, Ala.
Central Pipe & Supply Co., Charleston, W. Va.
Greenspon's Sons Iron & Steel Co., St. Louis, Mo.
Hudson Pipe & Supply Co., Bayonne, N. J.
Maryland Pipe & Steel Corp., Baltimore, Md.
National Tube Co., Pittsburgh, Pa.
Pittsburgh Piping & Equip. Co., Pittsburgh, Pa.
Power Piping Co., Pittsburgh, Pa.

(Cast Iron).
Amer. Cast Iron Pipe Co., Birmingham.
Cast Iron Pipe Research Asso., Chicago.
Gilmorgan Pipe & Fdry. Co., Lynchburg, Va.
National Cast Iron Pipe Co., Birmingham, Ala.
U. S. Pipe & Fdry. Co., Burlington, N. J.

(Dredge).
Lancaster Iron Works, Inc., Lancaster, Pa.

(Hammer-Welded).
National Tube Co., Pittsburgh, Pa.

(Iron and Steel).
American Rolling Mill Co., Middletown.
(Second-Hand).

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Albert Pipe Sup. Co., Inc., Brooklyn, N. Y.

Central Pipe & Sup. Co., Charleston, W. Va.
Greenpoint Iron & Pipe Co., Inc., Brooklyn, N. Y.
Hudson Pipe & Supply Co., Bayonne, N. J.

Marine Metal & Supply Co., New York.
Maryland Pipe & Steel Corp., Baltimore, Md.

(Spiral Riveted).
Taylor Forge & Pipe Wks., Chicago, Ill.

(Spiral Welded).
American Rolling Mill Co., Middletown.
(Steel).

Bethlehem Steel Co., Bethlehem, Pa.
Chicago Bridge & Iron Wks., Birmingham.
Jones & Laughlin Steel Corp., Pittsburgh, Pa.
National Tube Co., Pittsburgh, Pa.
Pittsburgh Piping & Equip. Co., Pittsburgh, Pa.
Power Piping Co., Pittsburgh, Pa.
Youngstown Sheet & Tube Co., Youngstown, Ohio.

(Steel, Large Diameter).
Alec Products, Inc., New York, N. Y.

(Welded).
Welded Products Co. of La., Inc., New Orleans, La.

(Wrought Iron).
Reading Iron Co., Reading, Pa.

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American Pipe Bending Machine Co., Boston, Mass.

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United Cork Companies, Lyndhurst, N. J.

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Georgia Iron Works, Augusta, Ga.

Machinery (Concrete).
Quinn Wire & Iron Works, Boone, Iowa.

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ville, Fla.
Pittsburgh Piping & Equip. Co., Pitts-

burgh, Pa.
Power Piping Co., Pittsburgh, Pa.

Southern Automatic Sprinkler Company,

Birmingham.

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American Rolling Mill Co., Middletown.

Bethlehem Steel Co., Bethlehem, Pa.

Carnegie Steel Co., Pittsburgh, Pa.

Central Iron & Steel Co., Harrisburg, Pa.

Chattanooga Boiler & Tank Co., Chatta-

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Granite City Steel Co., Granite City, Ill.

Gulf States Steel Co., Birmingham, Ala.

Jones & Laughlin Steel Corp., Pitts-

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Ryerson & Son, Inc., Jos. T., St. Louis

and New York.

Tennessee Coal, Iron & Railroad Co., Bir-

mingham.

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Amer. Creosoting Co., Inc., Louisville, Ky.

Atlantic Creosoting Co., Norfolk, Va.

Ayer & Lord Tie Co., Inc., Chicago.

Brown Wood Preserving Co., Louisville, Ky.

(Tubular, Steel).
Bessemer Galvanizing Works, Bir-

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National Tube Co., Pittsburgh, Pa.

(Yellow Pine).
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Curtin-Howe Corp., New York City.

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Young & Selden Co., Baltimore, Md.

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Wood & Co., R. D., Phila., Pa.

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Division, Milwaukee, Wis.

Petersburg Mchry. Pump & Well Co.,

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Virginia Mchry. & Well Co., Richmond, Va.

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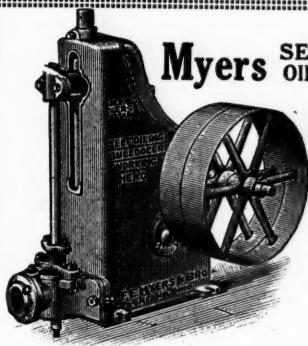
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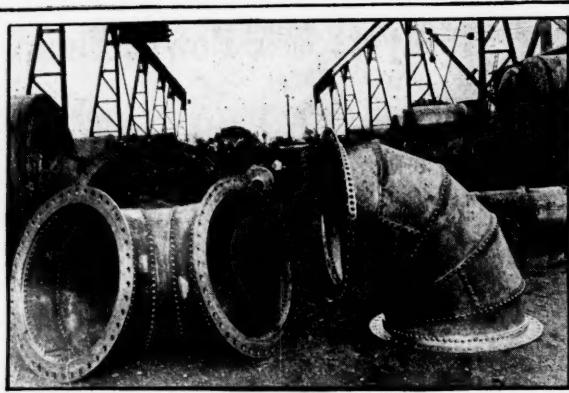
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—(Steam.)

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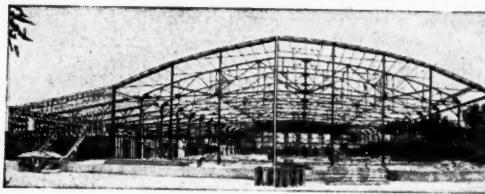
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 Gulf States Steel Co., Birmingham, Ala.
 Jones & Laughlin Steel Corp., Pittsburgh, Pa.
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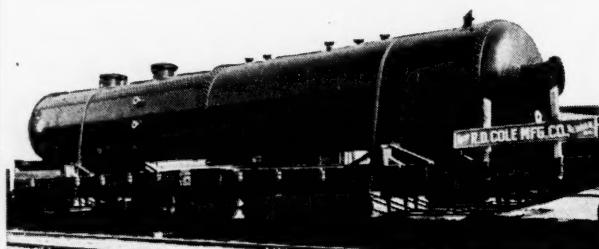
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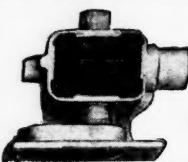
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N

Nashville Ind. Corp.	†
National Cast Iron Pipe Co.	†
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National Tube Co.	†
Newark Wire Cloth Co.	†
Newport News Shipbuilding & Dry Dock Co.	†
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Advt. marked ^{*} appear every other week.

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Prompt Delivery
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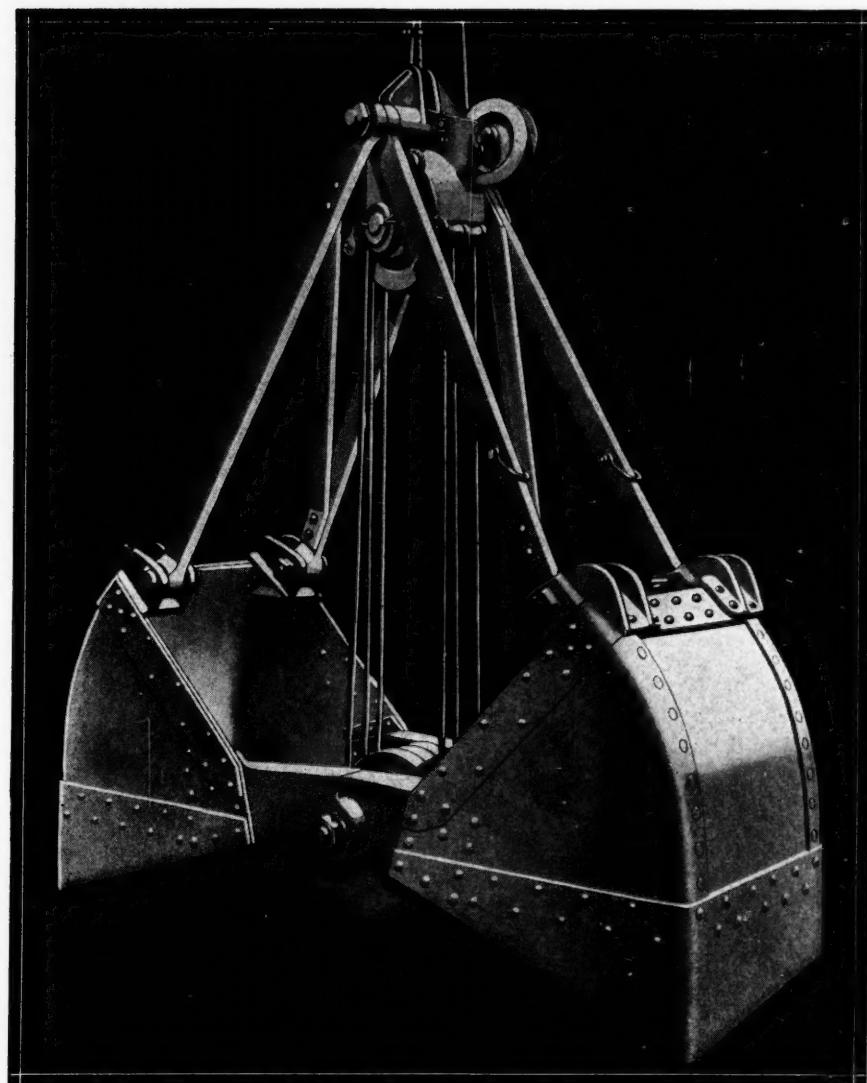
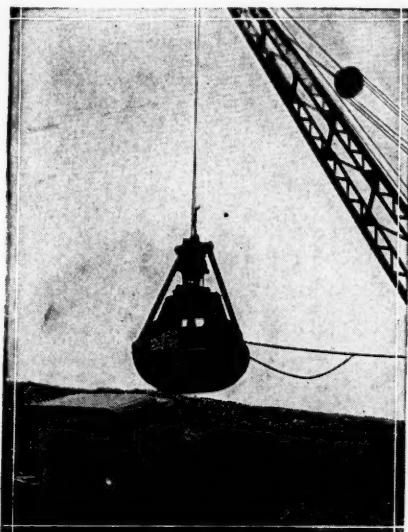
ALCO PRODUCTS · INCORPORATED

MAIN OFFICE: 220 East 42d St., New York, N. Y.; DISTRICT OFFICES: McCormick Bldg., Chicago; Terminal Tower Bldg., Cleveland; Esperson Bldg., Houston, Tex.; Philtower Bldg., Tulsa, Okla. • Plant at Dunkirk, N.Y. • Cable address: ALPRODUCTS

DIVISION · OF · AMERICAN · LOCOMOTIVE · COMPANY

These Buckets Have to be Good

ASK the old-timer who has run them all and he will tell you that an Industrial Brownhoist will "bury" most cranes on fast bucket work. Ask him why and you will find that one of the reasons is the better bucket with



which these cranes are equipped—the Industrial Brownhoist Clamshell.

Industrial Brownhoist's interest in getting the best buckets for its cranes goes far deeper than any individual owner's. That is why we have built buckets for more than a quarter century and why we build them to such high standards of dependability.

You can't get big output with a mediocre bucket, no matter how

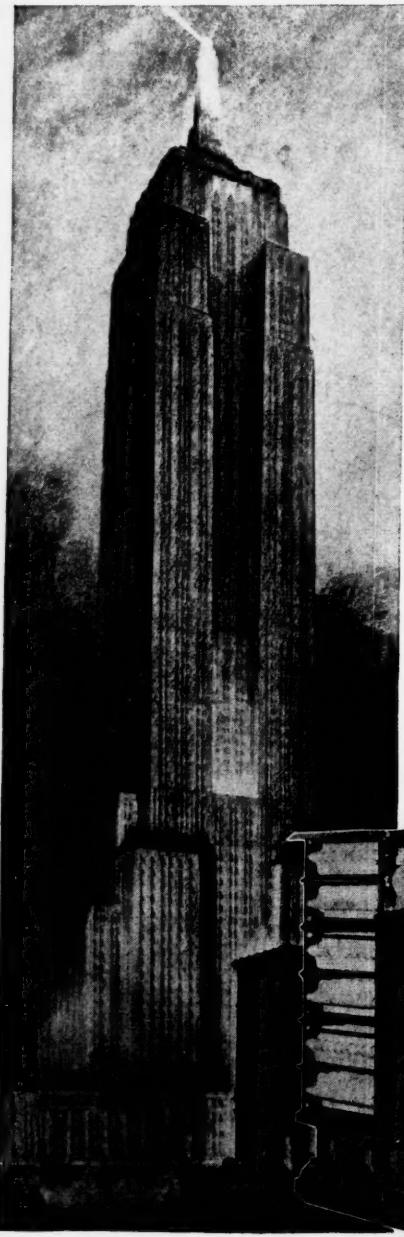
good your crane. But you can improve any crane's performance by reeving on a better bucket. That applies just as much to the crane you own as it does to the ones we build.

Why not speed up your crane's output by putting on a bucket which you know is right? Industrial Brownhoist Clamshells cost no more and are built in all standard sizes and for rehandling or heavy-duty service.

Industrial Brownhoist Corporation, General Offices, Cleveland, Ohio
District Offices: New York, Philadelphia, Pittsburgh, Detroit, Chicago, New Orleans, San Francisco, Cleveland.

INDUSTRIAL BROWNHOIST

Timken Bearings are helping to speed up the construction of the world's highest building by enabling Thomas Hoists to lift 8,000 pounds at 600 feet per minute



As contractors know, one of the biggest problems encountered in erecting today's super skyscrapers is how to keep the material going up fast enough to prevent waste of time at the point of use.

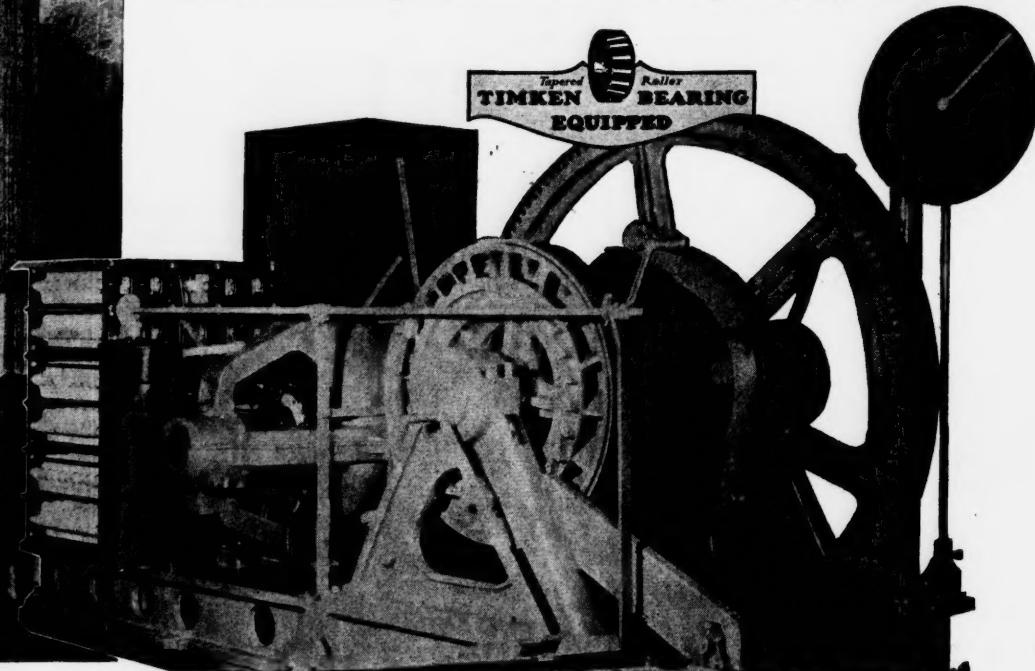
The Thomas Elevator Company, Chicago, have solved this problem, as far as their hoisting equipment is concerned, by mounting the drum shaft on Timken Bearings. By doing so they have been able to greatly increase the speed of their hoist without increasing the size of the motor.

On the job at the 85 story Empire State Building now being erected in New York City, six of these hoists are sending material aloft

at the rate of 600 feet per minute. Each hoist has a capacity of 8,000 pounds on a single line.

And while designing for greater speed, the makers have also assured greater dependability, longer life and lower maintenance, for the exclusive combination of Timken tapered construction, Timken positively aligned rolls and Timken-made steel not only eliminates friction, but carries radial loads, thrust loads or both together in any combination.

For this reason, Timken is the dominant anti-friction bearing in every type of construction machinery. The Timken Roller Bearing Company, Canton, Ohio.



TIMKEN *Tapered Roller* **BEARINGS**

